PHILADELPHIA, FEBRUARY 12, 1881.

ORIGINAL LECTURES.

ABSTRACT OF A CLINICAL LECTURE ON A CASE OF NEURITIS OF THE BRACHIAL PLEXUS BELIEVED TO BE DUE TO MEDIASTINAL CARCINOMA.

Delivered at the University Hospital, January 22, 1881,

BY H. C. WOOD, M.D.,

Clinical Professor of Nervous Diseases in the University of Pennsylvania, etc.

Reported by Dr. CHARLES K. MILLS, Chief of Nervous Clinic.

GENTLEMEN,—This man comes to us complaining of pain at the root of the neck, extending into the right arm and associated with great tenderness. He states that he has had epilepsy for nearly forty years; but his intelligence seems to have been in no wise affected thereby. He is very bright and shrewd in his answers, denies all loss of memory, and offers no history of headache, vertigo, or other evidence of gross cerebral disease. His present illness he dates back to last August, when the pain, of which he now complains so much, commenced, and, to use his own words, the "cords of his neck began to draw down." The pain since it set in has steadily increased; it is persistent, with exacerbations, and frequently at night entirely banishes sleep. At the same time the unfortunate sufferer has gradually been compelled to assume the posture which you now see. His head and body are bent far forward, so as to give his spine a marked curvature. If he attempts to straighten himself, or if you try to pull him backward to an erect position, he complains of great pain at the root of the neck. He crouches in this ungainly position, not from any paralysis of the muscles of the back, but because of the pain which he suffers if he tries to assume any other posture. Even at night he cannot stretch himself out at full length: in fact, he usually sleeps propped half up in bed or in an arm-chair. His shoulders and upper chest appear to be drawn downward and forward by muscular spasm.

When I touch him you observe evidence of great hyperæsthesia over the right shoulder, right arm, and right side of the neck and chest. He shrinks in alarm from the slightest touch. The man complains of no shortness of breath; but, as I look at him stripped, his respiratory movements are evidently hurried, and on counting I find them twenty-eight a minute. On looking further for evidence of disturbed breathing, you see that inspiration is distinctly longer than expiration, and that the right supra-clavicular space is sunk in much more than the same space on the left side, especially during a full inspiration; also notice that a distinct line or groove of depression or sinking is seen between the lower ribs on the right side, this not being present on the left. Further, if you watch a moment, you will no doubt agree with me that the play of the spaces between the ribs is much freer on the left than on the right side: even during forced inspiration the left intercostal spaces do not fill out.

Passing from the chest, your attention must have been at first sight attracted to the tumor which he has in his neck. It is without doubt an enlargement of the thyroid body, as it is not affected by respiration, but is controlled by the movements of the larynx. It is very tender to pressure. Searching farther, I find several other hard bodies deeply placed in the neck. They are evidently glandular enlargements. This thyroid tumor has been present for years, but it was small until last August, since which time it has grown steadily. The enlarged glands have probably recently appeared; but we can get no distinct information upon this point.

This man, gentlemen, has been before a number of physicians of this State without their being able to tell him what his disease was,—at least, so he states,—and comes to-day for an opinion as to his ailments. Of course he has epilepsy; but this does not seem in any way connected with his present illness,—it is of too long standing, and has given rise to too little evidence of severe cerebral implication, whilst the present attack is substantially acute. There seems to be a general neuritis of the whole brachial plexus, as is indicated by the hyperæsthesia and shooting pains. You may say these are centric, due to a cervical pachymeningitis; but not so, gentlemen. A cervical pachymeningitis could hardly be so absolutely one-sided as the symptoms here necessitate, or so accurately confined to the region of the brachial plexus. More-

over, the nerve-trunks are everywhere exceedingly tender; and this indicates a neuritic rather than a centric hyperæsthesia. Further, cervical pachymeningitis could not account for the chest-symptoms.

You will say, Why is it not aneurism? There are no physical signs of aneurism discoverable; the pulses on the two sides are uniform both in the radials and in the carotids; there are no evidences of disturbed circulation in the neck; it is not conceivable that an aneurism could get high enough in the neck to implicate so seriously the brachial plexus and not reveal itself; an aneurism would not cause enlargement of the cervical glands. These, stated very briefly, are the reasons why an aneurismal theory is not, to my thinking, tenable.

The man attributes his trouble to the tumor on the neck. Pressure upon it causes shooting pains throughout the whole affected region; but pressure on the arm or supra-clavicular space, or even on the front of the chest, will do the same thing: so that this signifies nothing. The neck tumor feels like a cystic degeneration of the thyroid gland; but I do not believe that the whole of this patient's disease is in the thyroid gland. The respiratory symptoms are pressure-symptoms, but they are not the manifestations of laryngeal pressure. You have here no hoarseness, no loss or change of voice. Moreover, the larynx is quiet, and does not make the irregular movements which are so generally connected with laryngeal obstruction. Besides, the contraction in the intercostal spaces and the sinking in of the base of the chest are very much more marked on the right side than on the left. The disease of the cervical glands, likewise, is not sufficient to account for the symptoms. Pressure is exerted on parts too low in the chest to be affected by cervical enlargements.

The respiratory symptoms are so one-sided that it seems to me they must be due to pressure upon the right bronchi. It is strongly probable that we have here a case of mediastinal tumor.

In the mediastinum, as you know, are many glands. The condition of the cervical gland would indicate that these are diseased. The rapid development of the condition would indicate something more than lymphadenoma: this is confirmed by the severity of the neuritis. There is not evidence enough of pressure to explain altogether the involvement of the brachial plexus. It would seem that these nerves are surrounded by something which not merely presses but, much more, irritates them. Mediastinal tumors are very frequently sarcomatous; and it is most likely that the man has extensive sarcomatous or carcinomatous degeneration of the mediastinal glands, giving origin to a similar disease of the cervical glands and causing neuritis of the brachial plexus.

Such being our theory of the case, the prognosis is, of course, bad: little can be done, only that his sufferings may be alleviated by the free use of narcotics. I have, however, given so unfavorable an opinion that the man is anxious to leave the hospital for his home in the centre of the State.

ORIGINAL COMMUNICATIONS.

THE PROFESSIONAL RELATIONS BETWEEN THE PHYSICIAN AND THE DRUGGIST.

Read before the Philadelphia County Medical Society, November 24, 1880,

BY GEO. B. H. SWAYZE, M.D.

MR. PRESIDENT AND FELLOW-MEMBERS,—By your indulgence I desire for a short time to join you in some consideration of one of the most important and universally-felt interests of our profession. While the subject is not new, every observing, thoughtful practitioner of medicine must often realize that the problem of the medical and pharmaceutical relations deserves renewed and vigilant consideration, in order that some reformative means may be devised, through which evils of omission and evils of commission pertaining to the professional relations between physician and druggist may be corrected. To the great mass of physicians the practice of medicine has its business aspects as well as its more strictly professional province. In the experience of a large proportion of the members of our humane profession it is doubtless often a question which of these relations of professional life, business or medicinal, necessarily assumes the more vital consequence. The professional prosperity of the physician, and, as society has learned to gauge civil and social values, often the professional prestige of the physician, depend not only

on his educational proficiency, or on his opportunity of serving the needs of an ever-needy public, but also on his ability to secure adequate and reasonable compensation for his devotion to a high and worthy calling. In every other profession and avocation this business feature of their work has ever been more definitely and rationally recognized than in the medical. I believe that more than one physician has repeatedly found reason to feel that the ideal humanitarian embodiment of the practice of medicine has been so fostered that many people have educated themselves to the sentiment that *doctors are conveniences without rights*, whenever the latter conflict with the selfishness and caprice of those who use them.

In taking a comprehensive glance at the inter-professional domain of physicians and pharmacists, we perceive that the office of physician is peculiarly that of discerning the nature of diseases, of deciding what are the therapeutical indications of their treatment, and either dispensing or directing, orally or by prescription, what remedies he considers proper for their relief; while, professionally, it is the office of the pharmacist to prepare, preserve, and compound the remedies needed by the physician in the treatment of disordered conditions of the human system.

In the earlier days of the healing art, before it became the fashion for the medical practitioner to delegate to another class of business-men almost the exclusive management of the therapeutics of medical practice, physicians furnished themselves with the remedies actually needed, kept under their own control the knowledge and prestige of their art, attended patients at less unnecessary expense than attaches to the modern mode, were held in high personal and public appreciation, enjoyed lucrative incomes, and were everywhere recognized as influential and honored factors of society.

As the apothecary advanced from the obscurity of pharmaceutical chaos, and the medical practitioner reached to him the hand of friendship and professional support, the physician did not foresee that, through the system of prescription-writing and the sending of patrons to drug-stores for all needed remedies, he would be placing both his professional knowledge and his business interests, day by day, year by year, continuously into the hands of the druggist, and that through these the opportunities, influence, and importance of the druggist would so rapidly augment that said druggist would soon become the formidable business rival of the physician in nearly every practical sense, while the professional consequence and prosperity of the physician *must* proportionally wane.

Before proceeding further, Mr. President, I beg to disclaim any intention of reproach or invidious purpose in my references to what strike me as radical defects in the ethics adopted in practice by pharmacists in their relations towards physicians. I lay nothing at the personal door of any particular druggist, but aim solely to reach some analysis of the principles on which our mutual relations are conducted, and get some periscope of the ground lying between the individual provinces of physician and druggist. And in this connection let me premise that as business-men the generality of druggists excel the generality of physicians. They are enterprising gentlemen, who guard and exalt their opportunities with pious, almost Spartan, fidelity, who make their profession the *medium* of *business*, and neglect no means that come within their reach to advance their pecuniary interests. In nearly all cases of illness attended by the physician the druggist gets hold of the cash end of the account, while the doctor is left to console himself with the trust end. Ostensibly the druggist is the aid of the physician. He keeps in stock an extensive variety of remedials from which the physician is to draw supplies for patients, usually on written instructions. The druggist solicits the confidence and aid of physicians, and expects to be sustained through the patronage of their clients. With his eye on the "main chance," the druggist makes it a rule to "never turn a customer away," lest he carry his money to somebody else. Therefore, if a physician prescribes for a case, and his prescription proves decidedly successful, instead of that physician reaping his legitimate, substantial reward for his skill, the druggist takes it instead, often for the remainder of his life. The prescription, being a written instruction or direction for temporary use only, is placed on file by the druggist for future reference, and as often and as long as the refilling of that prescription is applied for by the party for whom it was originally intended, or his

friends and neighbors, it is put up without any reference to the prescriber's knowledge, wishes, or interests.

Perceiving that the druggist is the recipient of the unbounded confidence and daily patronage of the physician, and finding the druggist such an accommodating substitute for the physician in mild cases when the patient is not absolutely bedfast, and sometimes when he or she is so, it comes to pass that there is carried on a continuous undercurrent of medical practice over the counter by the druggist, either with or without the aid of the physician's prescriptions on file.

Sundry capitalists and patent-medicine speculators aim to create a demand for their wares by turgid praise and misleading puffery. The powers of the press are invoked to carry the glad tidings to all the afflicted. Patent-medicine almanacs and proprietary-nostrum circulars bearing the imprint of names and business address of druggists of established reputation in the neighborhood, with their gorgeous invitations to come and be healed, are pushed into every house. The obliging druggist puts the advertised articles into stock in unending variety and attraction. He has received the compliment of a thorough advertising gratis, and his illuminated windows, gleaming shelves, and chaste marble counters bristle with these formidable and injurious substitutes for legitimate medical practice. Instead of co-operating with the conscientious, well-meaning, deserving physician by holding the local field for legitimate prescribing, the druggist becomes the introducing and selling agent of these astute nostrum-speculators for a percentage margin; and by the dispensation of such nostrums, whether by gift or by sale, the druggist constitutes himself the practitioner of quackery, virtually assumes the treatment of the innumerable diseases for which the bottle-wrappers effusively recommend the contents, and thus yet further curtails the physician's field of professional usefulness and support. It is apparent that patent-nostrum speculators depend on druggists for their success in coining millions of dollars from the means of the always gullible public, while the regular physician is often left to plod in penury through a life of disappointment, hardships, and privation.

If it is the moral duty of the enlightened physician to protect his patrons and the public from the injuriousness of patent nostrums, why is it not the moral duty of the enlightened druggist to do so also? Is it not because his business principle forbids him from ever turning a customer away, lest he go to somebody else? Is it not because the dollar is the prime consideration? Is it not because he is so thoroughly wedging himself between the physician and the public that the physician must take the lamb's share while the druggist appropriates the lion's share of general medical practice?

It is the policy of patent-medicine advertisers to prejudice the minds of the unstable against the employment of physicians in the diseases for which they offer panaceas. They affirm that, if their nostrum does not give relief, it is useless to run up a bill with a doctor, as the article has been known to cure thousands of cases that had been given up by the doctors; for the evidence of which they refer people to the druggists who handle their wares. These wily sharks thus hold out their delectable bait for the credulous, the anxious, the venturesome, the constitutionally infirm, who grasp at every straw tossed in their way by the capricious winds of chance or *finesse*, and go down amid the confusion and effusion of their deceptions. Without doubt it is the semi-professional prestige given these nostrums by their pharmaceutically educated agents, our respectable and influential druggists, who display the flaming show-cards, display the miraculous wares, display their overwhelming recommendations, that keeps in daring vigor the impetus of their sale among the people, resulting in increasing injury to the public, tampering with the opportunities for relieving and restoring impaired health, and aggressively encroaching on the professional province of the regular physician.

A flagrant injustice is done physicians by druggists who, without being so authorized by the prescriber, frequently and indefinitely renew prescriptions intended by the physician for temporary employment only, and often making them up for persons or families other than the one for whom they were designed. This disloyalty to the confidence and purpose of the physician practically cuts off a large measure of the just support of the physician by placing the druggist in the field as the prescriber and personal substitute of the

medical practitioner, and presenting the impolitic virtue of surreptitiously appropriating the doctor's brain and recipe to guillotine the doctor's income!

There is no doubt that the abuses of unauthorized renewals seriously endanger the welfare of patients by the prolonged use of potent remedies, as calomel, nux vomica, the iodides and bromides, chloral, morphia, opium, and alcohol.

As excuse for the commission of this wrong it was recently urged by representative pharmacists in conference with a number of physicians that physicians do themselves the injustice in great measure by not putting upon their prescription-blanks, "*Not to be renewed*"; and, further, having procured the prescription from the doctor, it belonged to the patient to use as he pleased. That these fallacies should be offered as a "scape-goat" it is natural to expect. In the first place, every intelligent druggist *knows* what was the *intent* and *purpose* of the physician when he wrote the prescription that is brought to the apothecary to be filled, and every such druggist knows that his disregard of the intent and purpose of that physician is a breach of good faith and a professional as well as a business injustice towards the prescriber: it is *not* doing to others as you would that others should do to you. A prescription is simply a *written direction* to the druggist stating *what* the physician desires shall be *furnished* the patient *at that time*, and embracing the *directions* as to *how* the remedy shall be taken. The *prescription*, or *note of instructions*, together with the *functions* performed by the *apothecary*, constitutes simply a *substitute* for the *dispensing of the indicated remedial by the physician's own hands*. In considering his cases the physician's *knowledge*, *experience*, and *judgment* are brought into requisition. The *patient* receives the benefit of *these* in his *conclusions and advice*. If he charges a fee, it is for his *professional service*. His *direction* as to what the druggist shall compound for the case is an *incidental matter*. This use of the prescription is guaranteed the patient for once filling, and does not confer on the patient or the druggist the right to *hazard the renewals of that prescription indefinitely and promiscuously*. The existence of such rights is a misconception, even of statute, if there be any such. Law is the guardian of the public welfare: its spirit and purpose mean protection. It does not give man the right to abuse or injure either himself or others. The law recognizes the sovereignty of *purpose*. The spirit of the purpose is recognized as defining the merits of the act. *The only problem to be grasped in defining the proprietorship of the prescription is the purpose of the prescriber.* If the physician has no moral right to jeopardize the welfare of a patient or the public, common sense must teach that he would not so stultify himself as to extend to patient or druggist a *carte blanche* privilege of doing what the doctor himself has no right to do. It is an astounding doctrine, fostered by pharmacists, that the will and purpose of the prescriber are to be subverted by the rashness of the patient, the stealth and inconsiderateness of persons who venture to use prescriptions compounded for other people, and the business policy of druggists, who habitually thus expand pharmacy into a medical quack practice according to their constant and increasing opportunities. As physicians it is just that we ask ourselves this great question: Are our prescriptions, our professional knowledge and experience, and the business prestige pertaining to these, to be trucked out at will by those whose opportunities make them custodians of our written instructions relative to cases to which we are called? *The legality of the proprietorship immunities of our written prescriptions or instructions may be very promptly settled by our suspension of the fashion of issuing them.* There must certainly be some method by which the medical province, the public welfare, the professional dignity, may be protected.

In the absence of statistics, I venture the assertion that druggists conduct one-half of the medical practice of the day through the continuous and broadcast dispensation of patent and proprietary medicines, by renewals of physicians' prescriptions, and by other ventures at prescribing for persons over the counter on some general statement of symptoms or complaint by the applicant, either for himself or other member of the family, or for some friend.

Thoughtlessly physicians have for years been giving out so much professional rope to pharmacists and the public, and in the mean time pharmacists have so industriously and energetically wedged themselves in between the "dear public" and

the professional province of the physician, that they are rapidly getting into shape to monopolize the field of medical practice. Already representative druggists claim that the pharmacist has the first ear of the public, and that upon his recommendation it depends who shall find general employment in the community. From the fact that druggists manipulate the prescriptions of physicians, the newer public instinctively turn to the druggist for advice in regard to who is the better physician to employ. Upon this most important circumstance there hinge the temptation and injustice of collusion between druggist and doctor for percentage on prescriptions, by which the local field of practice is prejudiced in favor of a certain doctor, with an interested discrimination against his fellow-physicians equally worthy and skilful.

Cajoling themselves into passiveness by the friendly allurements of pharmaceutical convenience and aid, lulled to repose by fancied security, medical practitioners have drifted farther and farther from the fundamental wisdom of guarding and garnering their professional knowledge and advantages instead of confidingly spreading them daily under the caprice and manipulations of persons of acute business instincts, who assume that they cannot, and it is universally known that they *do not*, refrain from subjecting the purpose and province of physician to continuous and damaging trespass. There is awaking in the minds of many medical men a spirit of profound dissatisfaction under the proddings of pharmaceutical infringements, and a growing impulse towards reaction pervades medical thought.

Meetings for consultation have been held by representative members of the Philadelphia Medico-Legal Society and a number of representative druggists, including a professor in the College of Pharmacy, for the purpose of mutually devising some plan for correcting and advancing the interests of our medical and pharmaceutical relations. While the correctness of our attitude was in the main assented to, there was manifested a marked indisposition on the part of several prominent pharmacists to take positive hold of the work of reform, while the burden of the task was placed upon the shoulders of the physicians. It was affirmed by druggists that they could not live by prescription business. But we answer that prescription business is compelled to undergo constant shrinkage through the substitution of patent-nostrum business and various other forms of prescribing by druggists themselves, to which must be here added their high charges for medicines that drive so many people to homœopathy. How can pharmacists expect physicians to sustain a vigorous prescription business if they are cut off by pharmacists in every available way from opportunities of prescribing? Druggists should perceive that in proportion as they foster the rooting and growth of patent-nostrum practice, in proportion as they substitute the physician by making up renewals of prescriptions, in proportion as they intercept the medical functions of the physician by venturing to prescribe for and treat cases of disease, in that threefold proportion do they overstep the pharmaceutical province by invading the physician's legitimate field of professional work, with the inevitable result of curtailing prescriptions and paralyzing legitimate pharmaceutical business.

In the course of these conferences an appeal for the adoption of a mutual medical and pharmaceutical code of ethics was presented, signed by about forty physicians, including the names of several medical college professors and lecturers. While this appeal was not accepted in form by the pharmacists who met with us, it resulted in the presentation of a resolution reviving a section of an old pharmaceutical code that, in practice, had been lost sight of for a score of years. At the conclusion of our appeal for a code we pledged "ourselves to throw the entire weight of our professional patronage in favor of such pharmacists as do in good faith join us in correcting the existing evils of medical and pharmaceutical relations."

The results of the work thus far accomplished are embraced relatively in the three following resolutions, through the practical operation of which it is to be hoped the entire medical profession will at once begin the re-education of the public in their perceptions and estimate of the province of the regular physician.

In regard to patent-medicine abuses,—

"*Resolved*, That the subjects under consideration be referred to the Philadelphia Medico-Legal Society, and that they be requested to send a committee to all respectable druggists, requesting them to place out of sight all patent medicines and

discourage their sales, and all druggists thus agreeing, to subscribe their names to such agreement.

"*Resolved*, That physicians, when writing a prescription which they do not wish renewed, should *write* on the bottom of such prescription, 'Do not renew,' and also inform the patient of the fact in every case; and, on the other hand, the druggist should either *write* or *print* on the label upon the bottle or package, 'Not to be renewed unless by a written order of the doctor.'

"*Resolved*, That as the diagnosis and treatment of disease belong to the province of a distinct profession, and as a pharmaceutical education does not qualify the pharmacist for these responsible offices, he should, where it is practicable, refer applicants for medical aid to a regular physician."

1828 COLUMBIA AVENUE.

REMARKS ON SOME POINTS IN THE TREATMENT OF TYPHOID FEVER.

BY WILLIAM PEPPER, A.M., M.D.,

Professor of Clinical Medicine in the University of Pennsylvania.

I HAVE no intention, in the limited time at my disposal, of entering into a full discussion of the treatment of typhoid fever in its various forms and with all its complications, but simply to state in a brief manner the results of my observation as to the management of the ordinary form of this fever, as I have met with it both in hospital and in private practice in this city and its neighborhood.

Although the attempts to isolate the particular poison of typhoid fever have not met with full success, it seems to be generally accepted that this disease is caused by a special *materies morbi*, for the most part admitted to the system through the alimentary canal, although capable, also, of gaining admittance by inhalation. I am disposed myself to believe that this poison is capable of being produced or brought into activity under conditions much more varied than it has recently been the habit to assert.

However this may be, the poison presents certain peculiarities which are important to note from their bearing upon the treatment of the disease. It is undoubtedly capable of retaining its power of infection for a long time latent, so that as soon as proper conditions are present it will manifest activity.

Carefully-observed cases also establish the fact that it is capable of producing typhoid fever although admitted to the system in very minute quantities and much diluted. It seems that the opportunities for the admission of the virus, in such small amounts as have been known to produce typical typhoid fever, must be so frequent and general that a vast majority of the community must at some time or other have been exposed to it. Probably, therefore, it requires, in a degree even greater than do other zymotic poisons, suitable pabulum for its development, and a state of system predisposing to its zymotic action.

At times the virus is so concentrated and active that, in whatever way it gains entrance to the body, it infects the system in nearly every instance and causes a virulent zymosis. On the other hand, the virus may be much less active: so that, supposing it to be taken into the alimentary canal, if the secretions are normal and the glands of the mucous membrane not susceptible or vulnerable, it may be thrown off without the production of the disease. Again, the virus may be more active or more fully propagated in the intestinal canal, and cause marked irritation of the enlarged solitary and Peyerian glands of the mucous membrane, so that the intestinal lesions become considerable; and yet the virus may be arrested in the swollen mesenteric glands and no marked infection of the system occur. This agrees with the well-known fact that no constant relation exists between the degree of intestinal lesion and the intensity of the primary constitutional infection or zymosis.

It is further to be noted that even in cases where primary infection of the system has not been intense, and where the intestinal lesions have been quite marked, it is quite possible, and indeed probably quite frequent, for the morbid intestinal contents to favor further development of the specific virus, and thus endanger continued absorption, or else for the putrid débris and secretions to give rise to a secondary non-specific septicæmia.

It thus seems to me that we must recognize practically the following different primary forms: first, ordinary typhoid fever, with moderate intestinal lesions and mod-

erate zymosis; second, cases with grave intestinal lesions and moderate zymosis; third, cases with grave zymosis and profound constitutional symptoms from the start.

I have spoken of the first form as ordinary typhoid fever, because my own experience would indicate that this and—to a less degree—the second form are by far the most common in this district, although far too frequently individual cases or limited outbreaks of the grave primary zymotic type occur.

I have referred to these familiar views simply to call attention to the immense importance of the rôle which the gastro-intestinal mucous membrane plays in typhoid fever from the earliest moment. It is very important, also, to recognize the fact that the stadium of typhoid fever presents two stages theoretically distinct,—namely, the primary true zymotic stage and the subsequent irritative or secondary septic stage. The first of these is probably the more definite in its duration, lasting, perhaps, from twelve to sixteen days, although the data do not exist for determining its duration accurately.

In speaking of the actual treatment, I would first consider ordinary cases of typhoid fever in private practice, coming under observation at the first development of symptoms of malaise. It is my profound conviction that in a great majority of cases of this form—that is, of course, excluding those of grave primary zymosis—proper treatment of this forming-stage will modify and moderate the whole subsequent course of the case, and will prevent the development of those grave and alarming conditions to the treatment of which so much time and attention are bestowed in most discussions upon this disease.

It is universally recognized that continued exposure and efforts during the forming-stage of typhoid fever greatly increase the gravity and danger of the subsequent attack, and I have often seen patients who, after the symptoms have actually developed themselves, have been allowed to leave the bed merely to use the close-stool or to sit in an easy-chair while the bedclothes were being changed, exhibit early and alarming exhaustion that was at least partially due to these injudicious efforts. The first essential to secure this result should be absolute rest in bed.

I have been surprised to find that some writers who begin by recommending early and complete rest make later allusions which show that their idea of such rest is far from being as thorough as I believe should be enforced. Every case in which the symptoms justify even a suspicion of typhoid fever should, in my opinion, be immediately consigned to bed and the use of the urinal and bed-pan be at once insisted upon. I have even seen such patients, when allowed to leave bed merely to use a close-stool or while the bedclothes were being changed, exhibit such exhaustion at a subsequent stage of the disease as could only be explained by these injudicious efforts. More frequently still have I seen the gastro-intestinal irritation increased seriously by the improper exposure to currents of air while out of bed.

In the next place, a most rigidly restricted diet should be insisted upon. Later in the case more abundant and concentrated nourishment and stimulants will perhaps be called for; but in this forming-stage I believe that a very limited amount of very light nourishment is sufficient, and that its use will exert a happy influence upon the subsequent course of the case. Not only should all solid food be at once forbidden, but the liquid food allowed should be light and very digestible.

Equally important is the avoidance of all irritating medicines, and especially purgatives, at this stage. It is scarcely possible that an emetic or a purgative should remove every particle of the virus from the intestinal canal, and yet we know that the virus will act even when present only in minute quantity and very dilute state if favorable conditions exist; and it is probable that the morbid secretion favored by the action of a purgative in this state of the system constitutes the best possible pabulum for the propagation of the virus, while at the same time it must render the glandular apparatus of the mucous membrane more sensitive and vulnerable. Digestion is disturbed and strength impaired, the intestinal lesions are aggravated, and the case is rendered more serious. If the state of the tongue and secretions indicates a laxative, good results will usually be obtained from the administration of the following:

℞ Hydrargyri chloridi mitis, gr. ii;
Sodii bicarbonatis, gr. xlviii;
M., ft. mas. et div. in pil. no. xii.
Of these one may be taken every two or

three hours until the bowels are moved or until all have been taken, when a movement can be secured by an enema of tepid water or gruel.

During this early stage the remedy which seems to me most constantly called for is quinia, which I am in the habit of giving in larger doses than at the later periods of the disease, except in a particular condition. My reasons for so doing are the following: during this stage the irregular febrile movement frequently simulates a mild malarial attack, and undoubtedly a malarial element is not unfrequently present when true typhoid also exists. Again, it is probable that the use of quinine may lessen the activity of the virus and the danger and degree of infection.

If, however, the gastro-intestinal irritation is at all marked, I invariably administer the quinia by suppository, as follows:

℞ Quiniæ sulph., ʒi;
Pulv. opii, gr. iv;
Ol. theobromæ, q. s.
M. et div. in suppositoria no. xii.
S. One every four, six, or eight hours, while the powders above mentioned are administered by the mouth.

I have found very many attacks of mild gastro-intestinal catarrh, with or without malarial complication, with symptoms closely simulating the early ones of typhoid fever, subside rapidly under the above treatment, together with a diet of chicken- or mutton-broth, gruel, skim-milk, or milk and water in equal proportions.

If, however, the symptoms persist, it can soon be seen that a true typhoid fever is developing, and, if so, the observance of the course above described will have tended much to lessen its gravity. Of course the same absolute, scrupulous observance of rest continues essential. The diet should now be as nourishing as the state of the digestion will permit. I believe, however, that it should be liquid in character throughout the entire course of the disease.

I have repeatedly seen ill results from the infringement of this rule, while I have rarely seen a case where the digestion had been carefully managed from the start in which liquid nourishment did not suffice to maintain nutrition. Indeed, such is my conviction of the supreme importance of the condition of the mucous membranes in this disease, and of the necessity of giving only such food as can be fully digested and absorbed, that I am inclined to believe that far more patients are over-fed than under-fed in typhoid fever.

I have seen many cases where, while beef-tea and pure milk were freely administered, dryness of the tongue, nausea or vomiting, and diarrhœa existed, and where the substitution of light chicken- or mutton-broth, and of skim-milk, or milk diluted with equal parts of water, has led to the subsidence of these symptoms and the re-establishment of good digestion.

With regard to the use of stimulants, I have been led to feel that they are not to be regarded as a necessary part of the routine treatment of typhoid fever. During the early stage of the disease, indeed,—unless exceptional symptoms arise demanding them,—their use is often injurious and tends to increase the derangement of digestion and the gastro-intestinal catarrh then existing. When the early stage is carefully managed, stimulants are often not called for throughout the whole course of the case, or only towards the close to hasten convalescence. On the other hand, in cases where the constitutional infection is serious, and marked nervous prostration and heart-failure exist, their free use may be demanded. No question in the treatment of typhoid fever has seemed to me to rival in difficulty that of deciding, in cases which do not come under notice until high hyperpyrexia, serious nervous symptoms, a rapid and feeble circulation, together with marked derangement of digestion, have supervened, how far these symptoms are the result of nervous exhaustion from protracted surface irritation which may be increased by the free use of stimulants, and how far they are the result of poisoning of the nerve-centres and depression of the vital forces by the zymotic poison.

In such cases it is probably better to use stimulants at once, but with the greatest caution and with a mind fully awake to the fact that their use may aggravate the very symptoms they are given to relieve. Where the case has been under observation from the very beginning, and stimulants have been withheld until the appearance of symptoms actually demanding them, it is generally a comparatively easy matter to determine when they are called for, and to decide in what form and to what extent they shall be given.

In every case of typhoid fever the febrile movement should be carefully watched, and the temperature be recorded two or three times in twenty-four hours,—say at 9 A.M., 2 P.M., 9 P.M. In many cases no special treatment is called for to reduce the temperature. If the primary zymosis is not violent, and the gastro-intestinal irritation is moderated by proper means, the febrile movement preserves its well-known course without the maxima attaining, in most cases, a dangerous point. So long as the temperature fluctuates 2° or thereabouts within each twenty-four hours, and the maximum alone, lasting for a few hours or less, reaches 102° to 103½°, while the nervous symptoms and the heart's action are reasonably favorable, no special anxiety need be felt about the pyrexia. This is especially true in women with sensitive nervous systems and in children, since in them high temperatures are most readily produced and have less serious significance. It is, however, desirable for the comfort of the patient and for the promotion of healthy action of the skin that the surface should be sponged several times daily. The water may contain a little alcohol, vinegar, or carbolic acid, and its temperature should be determined by that of the body and by the sensations of the patient. For instance, in a highly-nervous and delicately-organized young woman of 25 years, with marked typhoid fever in which the maximum daily temperature reached 104°, 104½°, even 105°, for ten or twelve days successively, sponging even with tepid water produced a sense of chilliness, so that it was entirely abandoned, and a perfectly satisfactory recovery was made. I am entirely convinced that any "cold-water treatment" of typhoid fever, with rigid rules for cool bathing, etc., as soon and as often as the temperature reaches a certain point (102½° to 103½° or so on), is unphilosophical, unnecessary, and less successful than the simpler mode of treatment here advocated. The excellent results obtained by some of the advocates of frequent cool bathing show that such baths are well borne and may be safely conjoined with a scrupulous attention to all the other details of rational treatment. But I have preserved the notes of the last one hundred cases of typhoid fever of whose treatment I have had the direction from the beginning of the attack, and the mortality has been but three per cent., and in only five or six of these cases were full baths employed. In the great majority of cases, then, I believe that cool bathing can be dispensed with, and sponging of the surface be found sufficient. But, on the other hand, there are certain conditions that seem to call imperatively for rapid reduction of temperature by cold baths. The first of these is when, early in the case, the temperature rises very high (104½° or over) without any sufficiently severe local irritation to explain it, so that there is clearly a grave zymosis present. Again, when at any period of the disease the daily maximum reaches 105½°, and the daily average is very high, and the hyperpyrexia is maintained despite the free use of cool sponging and the judicious use of antipyretics, cool bathing should, as a rule, be instituted. I follow this rule whether the hyperpyrexia is due apparently to increased septicæmia or to the failure of the inhibitory action of the nervous system; but if severe pulmonary inflammation or a serious exacerbation of intestinal inflammation has occurred to cause it, I do not advise the use of cool baths until the character of the nervous symptoms or the failure of the force of cardiac action indicates that the exalted temperature is producing dangerous secondary results. A few words must be added in regard to the use of other means for reducing hyperpyrexia. Undoubtedly, quinine is the most reliable of these. I have already spoken of its use in the later stages of the disease, either by mouth or rectum, and I think its judicious use thus greatly lessens danger of hyperpyrexia later. When, however, the temperature runs up as the disease advances, it does not seem to me advisable to give large single doses of quinia, but to persevere with the use of twelve to twenty-four grains given in divided doses during the twenty-four hours. The elevation of temperature is so frequently connected with the evolution of gastro-intestinal lesions that it appears desirable to avoid any measure liable to increase this surface irritation. The administration of colossal doses of quinia (twenty-five to forty grains at a single dose), while capable in some cases of lowering the excessive temperature, it seems to me has in more than one instance shown itself to be open to serious objection. If, however, the temperature persistently rises despite absolute rest, judicious

diet, the regular use of quinine in moderate doses, repeated sponging, and if any special reason exists why cool bathing should not be used, or if after cool baths have been used the dangerous hyperpyrexia persists, then only would I recommend the administration of very large doses of quinia; nor would I use them even then unless the state of the stomach encouraged the hope that severe gastric irritation would not result. Digitalis, which is very valuable where failure of the innervation of the heart exists, has not, in my experience, proved itself reliable as an antipyretic or a tonic to the heart when its feeble action results from degeneration of the muscular walls from hyperpyrexia. Salicylic acid and its salts have also disappointed me, often failing to reduce the temperature satisfactorily, and often causing a most unsatisfactory amount of gastro-intestinal irritation.

To return from this consideration of the treatment of the pyrexia in typhoid fever, there is one other condition, and only one, that seems to me to demand attention in every case of this disease. Pulmonary or venous complications may or may not exist in any pronounced degree, but unquestionably there is wide-spread irritation of the gastro-intestinal mucous membrane in every case. This may or may not be so intense as to prove the source of the greatest danger in the case, it may not be associated with severe diarrhœa,—nay, there may not be the slightest diarrhœa present,—and yet there is always hyperæmia and follicular enlargement. Differences between individual constitutions, as well as differences in the degree of these local lesions, cause them to exist in different degrees of reflex irritation, and thus to influence very differently the symptoms and course of the case; but the essential fact is that they are present in every case to an unknown extent, and the obvious inference would seem to be that they should receive suitable treatment in every case.

My own feeling is that this treatment should be instituted as soon as reasonable suspicion exists that the case is one of typhoid fever, and that it should, if possible, be steadily maintained until it may be thought that the mucous membrane has returned to its healthy state. It seems to me altogether probable, even despite the presence of a special poison in the intestinal contents, that some control can be exercised over the extent and progress of these local lesions; and I must add that prolonged clinical observation has convinced me of the truth of this view. The substances which would seem most appropriate for this purpose are the salts of silver and of bismuth and creasote or carbolic acid. Of these my own preference is very decidedly for nitrate of silver, the use of which now constitutes an essential and, in my judgment, a most important part of my treatment of typhoid fever. After the preliminary measures before described, I direct nitrate of silver in the dose of one-quarter or one-sixth of a grain for an adult, usually in pill, or for children in solution in mucilage of acacia three or four times daily, to be taken soon after food. If the bowels are constipated, extract of belladonna is combined; if a tendency to looseness exists, a small amount of powdered opium is added. When given in solution, the opium is added in the form of a few drops of deodorized laudanum. Since I was led to the adoption of this remedy by the study of the morbid anatomy of typhoid fever, I have acquired a constantly-increasing confidence in its value as an element of the rational treatment of this disease. By modifying, as I believe it does, the state of the mucous membrane, it modifies the symptoms that are dependent on the irritation reflected from the mucous membrane; and the result has seemed to me to be that in a long series of cases treated with most scrupulous attention to every detail, and in all of which nitrate of silver was administered, there has been a remarkable freedom from grave complications and a most gratifying percentage of recoveries (ninety-seven per cent.).

As may be inferred from the above remarks, there does not seem to me any objection to the judicious use of opium in typhoid fever. Not only have I seen it useful in checking diarrhœa, but it has often proved the most valuable remedy for the insomnia, headache, and excessive nervous excitability that may be present in this disease. It is true that I have known one of the bromides or chloral or spirit of chloroform produce good results in some cases where such symptoms existed, but far more frequently I have succeeded in relieving them by the use of carefully graduated small doses of deodorized laudanum, given alone, or with sweet spirit of nitre, or with a moderate dose of bromide

of potassium. Not until opium has failed, unless decided constipation exists, do I resort to the use of chloral or the bromides alone.

Time will not allow me to allude in detail to the measures which have proved, in my experience, most valuable in the treatment of the numerous complications of typhoid fever. When bronchitis becomes severe or pneumonia ensues, I substitute carbonate of ammonia for the nitrate of silver, continuing the use of full doses of quinia, increasing the amount of alcohol, and avoiding the use even of sponging with cool water unless the temperature goes over 105° Fahr.

By the observance of a very carefully regulated diet and the early use of nitrate of silver with minute doses of opium, the occurrence of troublesome diarrhœa is rendered rare. When it does occur, the diet should be even more carefully guarded and the amount of opium be increased, and, if necessary, acetate of lead, or a carefully prepared mixture of chalk and bismuth, with an opiate, be administered. Tympanitic distention of the abdomen often resuits from the fermentation of excessive or unsuitable food, and will be relieved by modification of the diet, and the administration of some such combination as the following:

℞ Creasoti purificat., gtt. v vel x;
Bismuthi subnitratis, ʒi vel ʒiss;
Tinct. cardamomi comp., fʒiij;
Aquæ, q. s. ad fʒv.

M. One tablespoonful every six hours.

But often also it comes from a quasi-paralytic condition of the intestinal coats which renders them incapable of resisting the expansive force of the gas enclosed. It is when tympanitis is due to this latter cause, and associated with the general symptoms of prostration and with wasted development of the typhoid state, but without much diarrhœa, that the internal use of oil of turpentine in emulsion (ten drops every three or four hours) will usually produce excellent results.

BELLADONNA IN SALIVARY FISTULA.—Mr. James Allen (*British Medical Journal*) says that in two cases of salivary fistula from injury to the Stenonian duct—one after incision, the other due to a stab—the application of belladonna extract with glycerin over the parotid gland of the affected side was followed by arrest of glandular secretion. The fistula then speedily healed without interference.

TREATMENT OF VESICAL CATARRH BY ESTABLISHING URINARY FISTULÆ.

BY D. HAYES AGNEW, M.D.

IN hopeless cases of chronic cystitis it has occurred to me that the life of the patient might be made comfortable by separating the connection of the ureters with the bladder and bringing them out through the abdominal walls, establishing fistulæ either in the iliac or in the lumbar region, and thereby diverting the urine entirely from the bladder. That such a route for the escape of the urine is not so objectionable as might be supposed will appear from the experience of two persons in this city who suffer from urinary fistula occasioned by accident, one of whom is able to attend to his occupation—that of a daily laborer—by swathing the body with a thick roll of bandage, by which the urine is absorbed. If the fistulæ were favorably situated, mechanical appliances might be constructed in which to receive the urine.

The feasibility of the procedure proposed I have satisfactorily verified by dissection and operation on the cadaver. At first I supposed the proper route to the ureters would be through the loin, as in lumbar colotomy; but the colon on each side is an obstacle which cannot readily be overcome. The plan which I pursued was to make an incision beginning one inch below the anterior extremity of the last rib, and terminating two inches below the anterior superior spinous process of the ilium. After dividing the skin, superficial fascia, external and internal oblique and transversalis muscles, the tranversalis fascia is next broken up, together with the loose tissue connecting the peritoneum with the iliac fossa. It only remains to detach carefully the serous sac until the primitive iliac vessel is reached, at the bifurcation of which into external iliac and internal iliac the ureter will be found to pass into the pelvis. Following the tube down, it should be severed as near to the bladder as possible, two ligatures having been previously applied (the lower one catgut), and the division made between the two threads. To relieve any tension on the ureter, a puncture is next made through the parietes a short distance above the upper angle of the wound, and the urinary duct piloted through by means of a probe secured to

the end of the ligature previously attached to the ureter. It only remains to detach the thread from the duct and to secure the latter by two stitches to the external opening, after which the main wound can be closed. It would not be proper to operate on both ureters at the same time. The patient should be allowed to recover from the first before proceeding to the second. Nor would such a surgical procedure be advisable if there was reason to believe that the kidneys were seriously implicated.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINICAL SERVICE OF THOMAS G. MORTON, M.D.

Reported by C. H. WILLITS, M.D.

CASE OF TRAUMATIC TETANUS FOLLOWING SEVERE INJURY OF THE SCALP WITH REMOVAL OF A SEQUESTRUM.

GENTLEMEN,—The boy I bring before you, who has just recovered from an attack of tetanus due to a severe injury of the scalp, presents about this history:

He is 13 years of age; was admitted on the 22d of September, suffering from an extensive laceration of the occipital region, fracture of the left clavicle, fracture of about four ribs, and many contusions and abrasions. He was knocked down by a train of cars in slow motion, was carried under clear of the wheels, but was caught, pinched, and rolled between the axle of the car and the ground. The scalp covering the entire occipital portion of the skull was torn down and hung upon the neck; the skull underneath it was denuded of the pericranium, and the surface of the bone much roughened.

The boy was evidently caught by the shoulders and squeezed together, as the left clavicle was fractured at its middle, the second, third, fourth, and fifth ribs of the left side had started from their sternal articulations, and one or two of the ribs of the right side were fractured. His right shoulder was much bruised, he was covered with contusions and abrasions, and he was in a state of profound shock.

His arm was placed across his chest to reduce the deformity of the clavicle, carbolized dressings were applied to the scalp-wound, and external warmth, stimulants, and hot beef-tea were ordered until reaction took place. The boy slowly recovered from the shock, and the scalp-flap, which was dressed with carbolized oil, without any tension, did not slough, but discharged pus freely.

His condition remained good until the 8th of October, when he evinced symptoms of tetanus, shown in attacks of trismus, opisthotonus, and general rigidity at intervals for several days. He was immediately placed upon the use of morphia by hypodermic injections in quarter-grain doses, with one fourth of a drop of conia, soon increased to one-half, every two hours; liquid diet, and stimulants. Under this treatment his symptoms gradually grew better, and he was able to leave his bed on the 12th of this month.

It has now been two months since the injury, and you can see a large ulcer and slough covering the occiput, with a piece of dead bone protruding in the wound. This sequestrum, I think, is a portion of the external table, and when I remove it, which I will endeavor now to do, it will leave beneath it healthy granulations. I grasp it firmly with the forceps, and gradually pull it out, displaying beneath a mass of healthy florid granulations which nature has thrown out between the living and dead bone. This ulcer will be dressed with a soft oil dressing, and our patient will soon be entirely cured.

TENOTOMY FOR A CASE OF SCROFULOUS DISEASE OF THE JOINTS.

This patient, a deformed boy, is suffering from the contractures incident to a scrofulous affection of the joints. Some time ago I performed the operation of tenotomy upon the hamstrings of the right ham and straightened the limb, and then applied a posterior splint; and I propose this morning to repeat the operation upon the left leg.

When he was admitted, some time ago, he was suffering from the injudicious use of opium, which he used himself in the form of morphia hypodermically. You will see, by the scarred condition of his body, that almost every available spot except the face shows evidences of the needle. Following its introduction abscesses often took place, due partly to the impoverished condition of his blood. At the time, his urine was albuminous, being nearly one-quarter the bulk albumen; but it cleared completely under the use of Basham's mixture and the stoppage of the morphia.

In September last I had decided to operate upon the left leg, when his urine again showed evidences of albumen, which proved the precursor of an attack of erysipelas. He recovered, and now his urine is perfectly clear, and he is in such good condition that I have no hesitation in endeavoring to restore the position of the limb.

In club-foot operations, in which tenotomy is so frequently employed, an accident could hardly happen, unless it should be the division of the posterior tibial artery, which could be readily controlled by pressure. Of course, when you come higher up, as the ham-string tendons, great care should be exercised that no important structures in the popliteal space are injured in the passage of the knife.

I find, as I grasp the joint, that there have been some inflammatory changes, a process of thickening which does not amount to anchylosis, and which I can nearly overcome by forcibly extending the limb. As I do so, thus making the ham-strings tense, I pass my knife under the tendons of the semi-membranosus and semi-tendinosus, and, pressing the blade against them, feel them give way. This gives the limb a sufficiently good position without the division of the biceps tendon. I now dress the limb in a posterior, straight, pasteboard splint, firmly bandaged.

In overcoming anchyloses in these deformed joints, separation of the epiphysis may take place and even the bones may yield, but the fractures always heal kindly and with excellent results.

It has now become a common procedure in my practice, in treating different angular deformities with anchylosis at the hip, after anæsthesia, to leave the pelvis well secured, then to forcibly fracture the neck of the femur, and then to apply extension in a straight position and treat it as an ordinary fracture. This has, in a large number of cases, replaced excision, simple section, and other modes of treatment, and I have never had any unfavorable symptoms arise, but good has been the invariable result.

RICKETS.—The three last meetings of the London Pathological Society have been occupied by a debate on rickets. The *Lancet* warns intending readers of the debate that they will find but little of the nature of recorded fact or observation, while there is an abundance of theory.

TRANSLATIONS.

MUSCULAR ATROPHY OF ARTICULAR ORIGIN.—Dr. Debove (*Le Progrès Méd.*, 1880, p. 1011) says that the considerable deformities brought about by articular rheumatism in part involve the bones, and in part produce contraction or atrophy of the muscles. He has recently had an opportunity to study this atrophy *post mortem*, with the following results. In the old classical descriptions of this trouble writers contented themselves by asserting that under the influence of immobility of the part atrophy with fatty degeneration of the muscles was brought about. Examination now shows that a quite different condition exists. The subject had suffered a long time with articular rheumatism; most of the joints were the seat of rheumatismal changes, and the muscles were considerably diminished in volume; they were found of a yellowish, dead-leaf color. Their muscular fibres, examined under the microscope, showed signs of simple atrophic change without fatty degeneration. In similar cases various coexistent appearances of the muscles might, indeed, lead to the idea that fatty degeneration had occurred, as, for instance, the yellow color, due probably, however, to diminution of the muscular hæmoglobin. The direction of the sections also might lead to mistakes, inasmuch as there is in some cases interstitial lipomatosis, fatty vesicles interposing themselves between the fibres if the sections are made parallel to the direction of the latter, so that it is difficult to say whether the fatty matter is external to or within the sarcolemma. To avoid this difficulty sections should be made perpendicular to the axis of the fibres. In the case in question, the alterations in the muscle presented two characteristics which brought it into relation with myopathy of nervous origin,—namely, the irregularity of the atrophy and the sclerosis of the interstitial connective tissue. The atrophy in the case examined was not equal: not only did it affect certain muscles in preference to others, but in a given fasciculus certain fibres could be observed which were reduced to one-third or one-fourth of their volume, some even only appearing as a red point tinged with carmine. The atrophy, therefore, was not uniform, but affected

only certain fasciculi of the muscle. The connective tissue between the diseased fibres was more abundant and more dense. This irregularity in atrophy has been observed in progressive muscular atrophy, and also by Debove in the muscular atrophy of hemiplegics and paraplegics. On the other hand, the atrophy observed in cachectic cases when the emaciation has been extreme is even throughout, and the interfibrillar connective tissue is not more abundant than in the normal condition. The resemblance presented in atrophy of muscular origin to that of nervous origin has long since suggested the idea of a central or peripheral nerve-lesion on which the articular and muscular lesion might depend. Dr. Debove's examinations, however, have thus far failed to show any lesion of the medulla. The cells of the anterior horns of the medullary gray substance possessed in the case examined their normal appearance. The larger nerve-trunks, however, and even the smaller branches examined to their distribution in the muscles, presented the extremest degree of atrophy.

Operative Procedure in Strangulated Umbilical Hernia.—Dr. Terrier at a recent meeting of the Société de Chirurgie (*La France Méd.*, 1881, p. 34) said that the therapeutics of this affection have been the subject of numerous discussions. Huguier thought that no operation should be attempted. Gosselin, on the other hand, thought that the prognosis of the affection had been made unnecessarily grave, and that if the operation is performed quickly and under favorable conditions success may be hoped for. M. Duplay, while recommending the operation, thought that the smallest possible wound should be made in the peritoneum. Dr. Terrier himself had observed three cases of strangulated umbilical hernia which had been operated on, and he would give the notes. The first was a woman of 77 who had long suffered from an enormous umbilical hernia. She was brought to the hospital with symptoms of strangulation. Dr. Terrier made a long vertical incision, and easily opened the hernial sac without finding a trace of peritonitis. The patient died, however, in the course of a few hours. At the autopsy an intestinal loop was found issuing from the abdominal cavity, which passed through the subcutaneous cellular tissue and returned to the abdomen.

A second case was that of a man in whom the hernia had been strangulated thirty-six hours. It was a small umbilical hernia; the sac was thin and covered with adipose tissue; it contained a small loop of the congested small intestine. Three nicks were made and a cure effected without difficulty, the neck of the sac joining by first intention.

The third case was that of a woman of 45 who had suffered with an umbilical hernia since 1861. Twice symptoms of strangulation had occurred, but reduction had been made without difficulty. The third time reduction was impossible. Operation showed a mass of epiploön in the middle of which was a loop of intestine twelve centimetres in length. After having effected reduction, Dr. Terrier placed a drainage-tube in position. The patient recovered. In conclusion, this success in two cases out of three without any particular operative procedure shows that umbilical hernia, contrary to the opinion generally stated, can be cured by operation.

In the discussion following the reading of this paper Dr. Polaillon mentioned three cases in which he had operated,—twice successfully. Dr. Verneuil thought better not to operate. Dr. Trélat, however, considered that, as the methods of after-treatment were so much improved since the time of Malgaigne, who had advised against operating, operation was now justifiable.

Lipoma of the Tongue.—Guelliot (*Le Progrès Méd.*, 1880, p. 1014) observed in Prof. Gosselin's wards a man of 48 who had had a tumor on his tongue for twenty-five years. This tumor, which had at first appeared as a small tubercle, had grown gradually with the lapse of years until it became large enough to involve the buccopharyngeal opening and interfere greatly with respiration. The tumor, which had a large pedicle, was situated on the anterior and right border of the tongue two centimetres from the median groove, but lying on the superior surface of the organ. It was not deep, being evidently situated on the mucous membrane. Somewhat lobulated, its surface was of a pale rose color with a yellowish tint in some places, while in others the collected epithelium gave it a white color. The mucous membrane covering it was thin and without papillæ; there was slight ulceration at one

point. To the touch it was soft, fluctuating, but not transparent. General and special sensibility of the surface seemed to be wanting. The tumor was evidently benign, and the diagnosis lay between a cyst and lipoma. In favor of the former, the special softness of the tumor and its want of transparency might betoken a cyst with thick walls. In favor of lipoma was its seat on the dorsum of the tongue, its opacity, softness, and the yellowish look of the mucous membrane covering it. It is true that it had not the lobulated feeling usual in adipose tumors. However, this diagnosis was made, and the tumor removed with the scissors after passing a double elastic ligature through the pedicle and around it. Examination showed the adipose character of the growth, the lobules being separated by very thin connective tissue. Lipomata of the tongue are very rare. Guelliot could find but twelve cases on record.

Purulent Infection in the Course of Suppurative Thyroiditis which had not been opened to the Air. — Oulment (*La France Méd.; Cbl. f. Chir.*, 1880, p. 767) reports the case of a woman 26 years of age who had suffered for eighteen years with a thyroidal enlargement. Whenever she menstruated she was attacked by facial erysipelas, which, however, ran a rapid and favorable course. On her admission to the hospital she complained not so much of the erysipelas as of a painful swelling of the cervical tumor, accompanied by fever and extreme prostration. In the eleven days following her admission she suffered from repeated chills, with diarrhœa, dyspnœa, and swellings in the left elbow and ankle-joint, going on until the patient gradually failed and died with symptoms of profound septic poisoning. At the autopsy, purulent collections were found in the thyroid gland, both the joints mentioned, infarctions in the kidneys, and bacteria in the blood. Oulment considers the condition of the uterus in menstruation as the predisposing cause, and cites the case of a midwife who, passing unscathed among cases of puerperal septicæmia, finally attended a case while menstruating and became the subject of purulent infection. In other cases the intestines may be regarded as the portal by which infection may enter, particularly when, as was the case in the present instance, the organism is weakened.

Action of Blisters on Sensibility.— M. Grasset gives the case of a man who was suffering from left-sided hemi-anæsthesia, said to be of six years' duration, and in whom right-sided hemi-anæsthesia had been previously and unexpectedly removed by a blister applied for pleurisy. The application of a blister over the deltoid was followed by the return of sensibility in the greater part of the limb. The restoration of sensibility did not, however, occur first in the neighborhood of the blister, but in the hand, and it extended as far as a little above the elbow, the neighborhood of the blister remaining insensitive. Another blister was then applied to the thigh, and was followed by a recovery of sensibility in the whole leg. The loss of sensation was thus reduced to the left half of the trunk, neck, and face. M. Robin found some time ago that saturnine hemi-anæsthesia could be removed by the action of jaborandi, the diaphoresis appearing to be attended with a return of sensibility. The use of the drug was also suggested to M. Grasset by a remark of his patient that he only sweated on the unaffected side. Jaborandi was used here with good effect.

New Contribution to the Therapeutic Applications of Iodoform.—Dr. Aphel (*Jour. des Sci. Méd.*, 1880, p. 612; from *Lo Spallanzani*) gives the case of a woman of 20 who had received a contusion of the right mamma, which soon became painful, while the lymphatics of the axilla also became engorged. After suffering for twenty days, the patient sought medical relief. Inunctions with a pomade of mercury and belladonna, persevered in for ten days, gave no relief. On using an ointment of iodoform, however, instantaneous relief was gained. At the end of ten days the patient was discharged cured. In a second case, that of a man who received a severe bruise on the ankle, an ointment of one part of iodoform to thirty of lard produced rapid amelioration. Prof. Masius uses the following formula: iodoform 1 part, glycerol of starch 30 parts, essence of peppermint a sufficient quantity to mask the odor.

Treatment of Dyspnœa by Salicylate of Sodium.—Salicylate of sodium is recommended in dysmenorrhœa of purely nervous origin, and also in gouty or rheumatic dysmenorrhœa. It is less efficient in other forms, but is, however, useful in these also.

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EDITORIAL.

ALUMNI SOCIETIES.

IN the course of a very few weeks most of the medical colleges of the country will close their sessions with appropriate ceremonies, and among the various procedures meetings of alumni societies will no doubt be prominent. In our youthful days these societies were not; in this city, at least, they are a modern innovation, and, we think, on the whole, a good one. They were originally called into being by the various faculties as a means of extending their own influence, of creating and maintaining a spirit of unswerving loyalty to the respective institutions, and thereby filling the pockets of professors. The exact boundary of the true disinterestedness of the professors in their action is exemplified by the rapidity with which a well-known gentleman—who had been most eager in getting up an alumni society, most unsparing in his condemnation of sister-institutions, most earnest in his protestation of the superiority of his own body—left his post when offered a few more dollars annually by a rival college. The birth of these societies was not altogether noble, but the societies exist. It is time, however, for them—no longer infants in age, feeding upon the pap administered by hopeful and admiring faculties—to look about them and act for themselves. If we mistake not, it is possible that what was a nursling of soft and gentle mien may grow into a Hercules eager to labor for the right.

Viewed purely as a commercial transaction, the contract which is fulfilled when the student receives his diploma from an ordinary medical college leaves no one under obligation. The student has *paid* his fees to the professors, and received his knowledge and his right to practise, and that is the end of it. The faculty are at least under as much obligation to him as he is to them. On the other hand, institutions of learning properly endowed give more to the student than he gives directly back. The object of endowment is to furnish to the student for a hundred dollars that which costs two or more hundred,—in other words, to pay, in whole or in part, the expenses of his education. To such an institution a student owes a debt, and he is morally bound until, by direct gifts, or by interesting others more able to give than he is himself, or by enlarging the classes of his *alma mater*, he has made return for that which has been bestowed upon him.

It is plain that our medical colleges under the old system put no such obligation upon their students. Loyalty is a good quality; but a persistent, unreasoning loyalty may be a very bad thing. There still are large colleges which make no more than a hollow pretence of reform, into whose crowded rooms are gathered and out of whose crowded rooms are annually discharged into their communities large numbers of men with but a show of regard to qualification, whilst the faculties receive princely incomes for a minimum of labor. Is there ground for love by worthy men of these institutions? Perhaps so; but the love should show itself by disciplining the institutions. It is a false pride, an evil loyalty, which leads a physician to send his students to an institution which he feels is being managed not for the general good, but to fill as rapidly as possible the pockets of those who are incumbents in the various chairs and are their own managers, so far as policy and action of the institutions are concerned.

Under these circumstances, ought the alumni societies to disband? are they an evil? By no means. Association

brings power, and what each alumni society should do is to use every effort to extend and strengthen its influence,—not only to knit its membership more closely together, but also to increase its numbers until it includes, as near as may be, all living graduates, and then to employ this power. Any such body of men could force their *alma mater* into the right path of progress. If the Alumni Association of the Jefferson Medical College was so organized, and would assert itself, is it probable that the institution would remain where it now is, holding a position so well known that it is not necessary to specify it?

Again, even in such an institution as the University of Pennsylvania, where the faculty have sacrificed their pecuniary interests to the general weal, the Alumni Society ought to assert itself and leave no stone unturned until it has obtained representation in the Board of Trustees. It owes this to itself, but it owes it also to the general medical profession. When representation is gained, as we believe it readily can be, in the University Board of Trustees, other alumni societies will grow restless with a sense of want and of power; tempests will gather; and when at last medical colleges are ruled, at least in part, by medical men whose eyes are not dazzled by the gilded glitter of self-interest, the millennium will not have come, but we shall have made a step towards it.

LEADING ARTICLES.

FOOD-ADULTERATION.

MUCH attention has of late been called to the subject of food-adulteration in this country, first by the various sensational and contradictory reports of such adulteration which went the rounds of the "scientific" and popular press, and more recently by the offer of a reward for the best draft of an act to prevent the falsification of articles of food in common use, offered by the National Board of Trade.

What has been needed, and what, until quite recently, has been almost entirely wanting, has been trustworthy data upon which to found correct notions of the prevalence and degree to which the various articles of food found in commerce have been adulterated. Is our vinegar indeed sulphuric acid? are our pickles incrusted with verdigris? is our bread a mass of alum? Is coffee a euphemistic expression for a decoction of the leguminosæ of our gardens with a dash of chiccory, and the milk with which it is mingled a mess of chalk, calves' brains, and pump-water from a possibly sewage-infected well?

Fortunately, the subject has now been taken up and reported upon by competent investigators, and, although the examinations made have not been as numerous or as widely extended as could have been wished, yet enough is known to calm the fears of the apprehensive, and to indicate that for the present the American citizen may eat his meals in the peaceful consciousness that for the most part his food is what it professes to be, and that he is not being slowly poisoned by toxic chemicals insidiously mingled with his daily aliment.

Dr. Charles Smart, U.S.A., in a supplement to the *National Board of Health Bulletin*, published at the beginning of the present year, gives the results of an investigation to determine the prevalence of adulteration in food-supplies. This investigation, which was undertaken in accordance with instructions from the National Board of Health, includes the examination of seven hundred and thirteen samples. Some difficulty was experienced in collecting these, owing to want of co-operation on the part of State and municipal health boards, and to the scanty appropriation available for the purpose. Specimens were collected from two sources: first, from first-class stores and from the army commissary department, where adulterated articles were not to be looked for; and second, from sources which might be presumed to yield low-grade, if not adulterated, goods.

Of the seven hundred and thirteen examples examined, three hundred and four were obtained from sources which implied purity, as already explained, and four hundred and nine from those which might be considered suspicious. Of the former, twenty-four, or 7.89 per cent., were found to be of such a character that under a law repressive of fraudulent adulteration prose-

cution might have been instituted with full prospect of effecting conviction. Of the latter, one hundred and eighty-three, or 44.74 per cent., would have been in like manner condemned. Dr. Smart's results respecting the various articles examined are of so much interest that we append an abstract of his report.

Lard and *corn-meal* were found to be unadulterated.

Tea was indeed found to be mingled with Prussian blue and indigo, but the quantity of these drugs employed for the purpose of facing the leaves is so small as not to be deleterious. If the color hid the quality of the leaf, so that a poor tea might be passed off as a superior article, some action might be warranted; but the color can be removed easily and the leaves judged by their natural appearance. Indeed, the facing in itself constitutes a criterion of quality, it being invariably fine or coarse as the leaves are young and high-priced or old and cheap. The facing seldom adds materially to the weight. Of ninety-eight specimens taken from sources where purity was to be expected, all were found pure. Of nineteen specimens taken from sources where adulteration might be expected, five were found adulterated. One of these had an excess of lime sulphate facing, one was mixed with sand, and three were mixed with exhausted leaves.

Coffee, Dr. Smart thinks, is not apt to be extensively adulterated in this country, owing to the fact that the American housewife prefers to buy the whole berry and to grind it in the domestic machine. Mr. Hill's examination for the State Board of Health of Massachusetts showed that ten samples of ground coffee obtained in bulk were found to be pure, while seven package samples consisted of one with no coffee, two with very little, and four with 50 to 70 per cent. of coffee, the rest being roasted wheat, pease, beans, and chiccory. Dr. Smart, however, found that some loose ground coffee examined by him contained chiccory and beans. Only one sample of package "coffee" was examined. It contained chiccory, corn, wheat, and rye, but no coffee. Three extracts or essences of coffee were examined, one of which consisted of chiccory and the two others of roasted starches. Two of these bore on the label an offer of reward for proof that any other extract of coffee was as pure as they!

Sugars and *syrups* were not found to contain sand except as an accidental impurity. Of one hundred and twenty-four samples of all kinds of sugars examined by Dr. Smart, fifty-seven were microscopically clean; sixty-four contained accidental dust; three were foul and swarmed with the sugar-mite. Of late years a saccharine substance, glucose, less sweet than cane-sugar, but, so far as known, possessing all its nutritive qualities, has been manufactured from starch by boiling with sulphuric acid and afterwards removing the acid by means of lime. It has been asserted that this substance is largely used for the fraudulent adulteration of sugars. In spite of reports to the contrary by public analysts of England and the health authorities of New York, adulteration by glucose is certainly practised. Among forty-seven brown sugars furnished Dr. Smart by dealers who knew they were to be examined, three contained glucose; while among thirty-eight samples purchased for analysis, no less than nine were thus adulterated. The glucose varied from a small admixture to thirty per cent. The white sugars, powdered, granulated, etc., were free from this adulteration. The syrups, of which twenty-one were sent in for examination and twelve were purchased, were all found to be pure. No salts of tin or other unwholesome substances sometimes stated to be used by refiners were found in the specimens either of sugar or of syrups.

The results of the *flour* analyses were highly gratifying. Of fifty-eight specimens which were examined, only one contained matter foreign to the wheat-kernel, and in this case the adventitious substance was corn-meal, evidently introduced by accident. Five samples were so deficient in gluten that it was doubtful if good bread could have been made from them; but this arose, not from wilful adulteration, but from natural causes. This result is very different from that found in England, where even last year, in spite of the stringent laws, fifteen specimens in six hundred and seven were found adulterated with alum.

Bread was found by Dr. Smart to contain alum in appreciable quantity. The unwholesomeness of alum is, however, by no means universally accepted. If the alum existed in bread as alum, and was introduced into the system as such, it would, from its powerful astringent quali-

ties, interfere materially with digestion and be properly viewed as a deleterious ingredient. But it is well known to chemists that when water is added to alumed flour in the process of dough-making, a chemical change takes place whereby the alum is converted into an insoluble powder. This insoluble powder, which is generally believed to be inert, has been proved by Professor Patrick, of the University of Kansas, to be unaffected by the juices of the stomach. Alum would, therefore, appear to be harmless. But there is another view to be taken of the subject, looking to its action in the bread itself. One of the objects of its introduction is to check the process of fermentation which may be taking place in poor flour: so that the bread made therefrom is whiter and contains less dextrin and starch-sugar than if no alum had been added. So far its action is preservative and of value, but it is accomplished at the expense of the nutritive principles of the flour. Phosphoric acid, from the soluble phosphates of the grain, is precipitated along with the insoluble alumina in the bread-making process, and, what is of more consequence, the digestibility of the bread is impaired by the presence of the alumina and its phosphate. J. West-Knights, F.C.S., in a paper read before the Society of Public Analysts during the past year, records the results of digestive experiments on alumed and unalumed breads. The former left a larger residue of unsolved matter after treatment with an artificial gastric juice. Nevertheless, there are no cases on record where disorder of the digestion is unmistakably due to the use of alum. There are many declamatory and unsound passages in books concerning the unwholesomeness of alum in bread; but, impartially viewed, the evidence appears to give ground for regarding it as an adulteration which should be suppressed. As alumed baking-powders are in such general use, this subject is worthy of a thorough investigation.

Dr. Elwyn Waller, in the fourth annual report of the Health Department of the city of New York, reports upon the bread sold in that city: Of fifty-one samples, forty-one contained no adulterant, two contained copper, probably added as sulphate, six contained an excess of alumina, and two both alum and copper.

Alum, however, was the only adulteration found during the present investigation.

Bicarbonate of soda, of which only twelve specimens were examined, was found to be considerably adulterated with sulphates and chlorides. No markedly fraudulent adulterations, as with large percentages of terra alba or starch, were discovered; but it is probable that if the list of samples had been increased some notably bad specimens might have been obtained, for in twenty-eight samples reported in the third annual report of the Health Department of the city of New York, while twenty-six were of the ordinary commercial character, one contained flour, and one nearly twenty-five per cent. of terra alba.

Cream of tartar is one of the articles which is subject to gross adulteration. Of eighteen samples examined, six were of satisfactory purity, eleven contained sulphate of lime varying from seventeen to ninety per cent., three having nearly the latter figure, two contained no cream of tartar, but consisted instead, the one of sulphate of lime, alum, and acid phosphate of lime, and the other of alum, acid phosphate, and potato-starch. Considering the use of cream of tartar in baking, its impure condition is a serious evil.

Baking-powders, of which six specimens were purchased and twelve obtained from the United States commissary department, were found to differ according to their origin, the army supplies being in every case pure and the others all impure and some deleterious.

Black pepper, ground.—The examination of the ground black peppers and spices shows to what extent adulteration may be practised when its detection by the public is a matter of difficulty. The dealer himself appears to have lost the knowledge of the characters of the pure article, as, out of four samples sent in by respectable houses in Washington for the purpose of being examined, only one was pure. The others contained baked flour and rice, with sand enough to prove the unclean condition of the peppers when milled.

Of the other spices, *allspice* when ground was found to be largely mixed with bread-crusts, beans, corn-starch, woody tissues, and turmeric. Of twenty-three purchased specimens, eleven were allspice only in name. Of eleven purchased samples of ground *ginger*, six contained wheat-flour, corn-starch, rice, bran of wheat, husks of black pepper, and turmeric. Some of these

contained over five per cent. of sand. Ground *mace* was found to be almost universally adulterated, the real composition of the supposed spice being made up of corn- and wheat-flours and starches, wheat-bran, rice, beans, and turmeric. Even three samples presented for examination by first-class houses were not all pure; one was mixed with wheat-starch. Of ground *cloves*, four examples from unexceptionable sources were found to be pure, but only three of twenty purchased specimens were free of other and cheaper vegetable substances. It would appear that pure ground *cinnamon* is an unknown article of commerce. Of twenty-six samples, only one, and that supplied by the commissary department of the army, was unadulterated. Ground *cayenne pepper* is as rare an article in the market as ground cinnamon. Fortunately, red lead, which Hassall found so frequently in English samples, appears to be absent in the American article,—a good instance of the ameliorating effect of republican principles on commercial morality. *Mustard* fares no better than other spices: twenty-one adulterated specimens were found out of twenty-seven, comprising *all* those purchased in the open market. *Vinegar* was found to be adulterated only by the addition of water. No copper, lead, or other dangerous metals were found, nor any free mineral acid. Of *pickles*, only one sample was examined, which proved to be pure. Recently, Professor Bailey found copper equivalent to one-seventh of a grain of sulphate of copper in a bright-green pickled cucumber weighing two ounces. But little *confectionery* was examined, and only the yellow-colored candies were found to contain poisonous coloring-matter, the color here being due to chromate of lead.

In conclusion, we may congratulate our readers and the public that matters are no worse. Our advice to Paterfamilias is briefly as follows. Buy your flour, tea, and sugar from reputable tradesmen, and never purchase ground coffee and spices. Above all, do not, for the purpose of gaining a temporary period of peace and quiet, give your children *yellow* sour-balls to stop their little mouths. For if you do you may be obliged, later, to spend sleepless nights in the attempt to assuage the pangs of a colica pictonum, which the wiser purchase of *red* "sour-balls" colored with the harmless cochineal might have prevented.

CORRESPONDENCE.

LONDON LETTER.

THE subject which has largely engrossed my attention the last day or two is the instructiveness of the urine in cardiac dropsy in the light it throws on several aspects of the subject. Not only does it possess a high interest of its own, but it illustrates changes in the circulation in some other maladies in an instructive manner. Further, it can be shown to have a high prognostic value in wider senses than is usually appreciated, and also to carry with it useful lessons in therapeutics. We all are familiar with the aspect of the urine in advanced cardiac disease: it is scanty, light-colored, dense, and readily throws down a deposit, usually of a reddish color. As the dropsy increases, this appearance is intensified, and usually in time some albumen shows itself. Now, it may be well to consider these points *seriatim* and in order.

The bulk of urine is intimately related with the blood-pressure in the arteries. When the blood-pressure is high, the bulk of urine is large; when the blood-pressure falls, the bulk of urine is less. That is, speaking broadly and not going into minutiæ,—such as questions of obstruction in the pelvis, of the kidneys, or the ureter, and like disturbing factors, which interfere somewhat with the broad generalization,—but accepting the statement that, ordinarily, the bulk of urine is the measure of the blood-pressure in the arteries. Consequently, when the walls of the heart commence to yield, with or without mitral disease, and the left ventricle can no longer keep the arteries well filled with blood, the bulk of urine falls below the normal. Step by step, hand in hand, together, the bulk of urine falls as the cardiac contractions decline in vigor. We know that the blood-pressure in the glomeruli of the kidney determines the rate at which the water of the blood, and the matters held in solution therein, pass from the blood-vessels into the urine-tubules of the kidneys. When a draught of water is taken and the water rapidly passes from the stomach into the circulation, the blood-vessels are filled; and then rapid secretion of urine follows. If we are perspiring freely, then the water passes off by the skin, and the bulk of urine is little increased. So we may say that when the skin is freely acting the bulk of urine is small; in cold weather, when the skin is inactive, the bulk of urine is large. When the blood-pressure in the arteries is light, as it is in the early stages of the gouty heart and kidneys, then there is a free flow of urine of low specific gravity. We know that when we meet a case presenting the following features,—a tight incompressible pulse, a hypertrophic left ventricle, a loud second sound heard over the aortic valves, and a copious flow of urine of low specific gravity,—we have

before us a case of the gouty heart with cirrhosing kidneys, whether or not there be albumen in the urine. Here we have, in other words, a dilute urine. As long as the contractions of the left ventricle are vigorous, so long is the bulk of urine large; but when muscular failure sets in, then the bulk of urine falls. The bulk of urine is the outward visible sign of the inward morbid changes, and the fall tells that molecular decay is spreading throughout the muscular fibrillæ of the hypertrophied ventricle. It is, then, the herald of coming change, or rather of histological change so well established that the heart's power is being enfeebled. As the cardiac power wanes, so the bulk of urine falls, till in time the copious dilute urine has given way to a scanty concentrated urine, in fact. This tells that the features of the gouty heart in its early stages are being lost in those of cardiac failure. The change is like that of a dissolving view: it is not sudden, it is gradual. The characters of one view are lost, and those of another gradually show through them; at either extreme a clear view is to be had, but at the time when one set are disappearing, and the other beginning to show through them, there is a certain indistinctness, a certain blending of the two, which is puzzling in the extreme. So it is with a case when the features of the strong gouty heart are being merged into and ultimately lost in those of cardiac failure. In time the features are those of heart-failure, not to be distinguished by the casual observer from those of an advanced mitral disease; still, the hard arteries and the distinct aortic second sound tell of what once has been to those who are familiar with these cases. Consequently, as the artery is less and less filled by the failing ventricular systole, so the bulk of urine falls, until there comes at last the dense, scanty, high-colored, concentrated urine of cardiac dropsy. The water, instead of finding its way out by the kidney, has found its way into the areolar tissues of the body, and dropsy is established.

This diminution of the bulk of urine is, then, most significant of cardiac failure,—either temporary or permanent, as the case may be, but ultimately prominent enough in spite of everything we can do. So in fevers where there is vaso-motor dilatation, the bulk of urine is small in spite of the patient taking large quantities of fluids. As the artery slackens, the urine becomes less in bulk,—becomes, indeed, a concentrated urine. When the pyrexia passes away, then the bulk of urine is increased until a normal bulk is regained. So it is with the concentrated urine of cardiac adynamy. If we can restore the vigor of the ventricular contractions, and enable the ventricle to fill once more the arterial system fairly well, then the outward evidence of this is the increased bulk of urine. As the water once more is squeezed out into the urine-tubules, the blood takes up again the water from the areolar tissue, or, in other words, the atophy disappears. But in time the dropsy reappears, and the measures adopted for its removal prove futile; the bulk of urine is but little and only temporarily affected by the remedial measures once so successful; and then we recognize the unpleasant fact that the case is passing into its final stages. We know only too painfully well that the molecular decay, the fatty necrosis of the muscular fibrillæ of the heart-wall, is spreading throughout the substance of the heart so extensively that the vigor of its contractions is gone, never to return. The treatment is made more active; temporary improvement follows, but it is delusive. The improvement does not continue, and the case moves onward to its conclusion. Now, for the treatment of this condition of dropsy we possess two different measures, which, however, are not incompatible with each other,—indeed, which can with advantage be used together. The one is to increase the vigor of the ventricular contractions, and so to increase the outflow of water by the kidneys; and for this purpose it is well to administer digitalis or some other drug of allied character. It is well, too, to administer some strychnine along with the digitalis, especially if the breathing is embarrassed, as is often the case. The strychnine acts upon the respiratory centre and improves the respiratory efforts. The impression upon the respiration is a useful auxiliary to the action of the digitalis upon the heart, and the circulation (between the two) is greatly improved. The arteries are better filled and the bulk of urine is increased. The other measure is to drain the water out of the system by hydragogue cathartics or the hot-air baths, exciting free diaphoresis, or both. It is well to bring the heart under the influence of the digitalis for a day or two before starting either of the other measures, in order to do away practically with any risk of serious syncope under their action. These secretory measures may be continued for a week or two,—each twice a week; then each once a week for a week or two longer, if any dropsy remains. Such, then, are the measures for relieving the dropsy and improving the circulation. The relief of the venous congestion by these measures of catharsis and diaphoresis removes the venous fulness in the kidneys and allows of a freer flow of blood through them, thus aiding the action of the digitalis directly upon the arterial fulness.

The bulk of urine is the outward indication of the state of arterial fulness: the fuller the artery, the greater the bulk of urine. Now let us consider the presence of albumen in the urine. No amount of pressure within the arteries will bring about an albuminous condition in the urine,—even ligature of the aorta below the renal vessels fails to produce it,—but any obstruction to the venous outflow

from the kidneys sets it up. Consequently, the amount of albumen in the urine is the measure of the venous fulness. In some cases it shows itself early, in others only at the near approach to the termination of the case. Usually it appears when the venous engorgement is becoming considerable,—at first fitfully, then more persistingly, finally permanently. Whenever the measures adopted improve the circulation, and with it the bulk of urine, the albumen disappears, wholly or partially. When the bulk of urine again falls, the albumen reappears. As the case progresses to its final stages, the presence of albumen becomes established, and its amount steadily increases and the case grows worse. In so speaking of albuminuria here, I mean the albuminuria of venous congestion, without any reference to any albuminuria which may have been pre-existing and which is not the distinct product of venous fulness. Such albuminuria may exist and be due to other causes; but the albuminuria of venous fulness is the steadily progressive albuminuria which marks the oncome of pronounced cardiac failure, and which is never to disappear. It may be more or less at times, fluctuating with the changes in the aspect of the case, but it is essentially steadily progressive in its nature, and indicates the downward direction of the case.

About the significance and causal relationships of this form of albuminuria there can exist, unfortunately, no doubt, and its appearance is of the worst omen. It has just been said that its amount varies from time to time with the fluctuations of the case; but where its amount remains undiminished, while the aspect of the case generally is somewhat improved, it is of very bad prognostic import. Consequently, when albumen has once shown itself, it is well to test the urine regularly in cases of cardiac dropsy, as temporary improvement is by no means rare even in cases where it can only be very transient from their nature. To sum up, then: (1) the bulk of urine is the measure of arterial fulness, and rises and falls along with it; (2) albuminuria is the measure of venous fulness, and rises and falls along therewith. Now there remains the third point to be considered,—viz., the presence of lithates in the urine. The deposit, as said before, is usually of a reddish or deep pink color, such deposit being usually composed of lithates. (But urine deposits, when of paler coler, may consist largely of phosphates in some form.) For our purpose here the main matter is to recognize the fact that the deposit is composed of lithates. When albuminoid waste matter is fully oxidized it becomes urea. Uric acid is a less completely oxidized form of waste. This dense concentrated urine, then, contains an excess of imperfectly oxidized waste. This is a matter which should be more carefully thought about than is the rule.

The liver has three functions: (1) the stowing up of glycogen (animal starch) from the grape-sugar in the portal vein; (2) the oxidation of waste and spare albuminoids; and (3) the production of bile. Beyond this the liver is intimately associated with the digestion of albuminoids,—though how we do not yet precisely know. It is with the second function of the liver we are chiefly concerned in this matter of the deposit of lithates in the urine. In cardiac failure, no matter whether the failure be due to primary mitral disease or to the decay of once hypertrophied heart-walls, the liver is gorged with venous blood. Indeed, not uncommonly the liver can be felt to pulsate with the impact of blood flowing backward through the tricuspid valves on the systole of the distended right ventricle. So gorged with venous blood, the liver is crippled functionally and cannot perform its work properly; consequently, we find imperfectly oxidized albuminoid waste in the urine. Not only that, but it exists in excess in the blood. Now, we know that when there exists an excess of nitrogenized waste in the blood, the flow through the arterioles is obstructed; such obstruction adds to the work of the heart, to the resistance the ventricle has to overcome on each systole. Consequently, to depurate the blood is to reduce the work of the heart. So relieved, the left ventricle will often regain much of its power. How, then, are we to depurate the blood? By remembering the functions of the liver! It plays an important part in the digestion of albuminoid matters, as well as oxidizing nitrogenized waste.

Now, it is well to bear in mind vividly and distinctly that when the assimilative organs are gorged with venous blood, their functional capacity is impaired, and it becomes necessary to administer easily digested food. To improve the tissues of the weakened heart is a most desirable object, but it is not obtained by cramming the patient with meat or its derivatives. The patient may be induced to swallow a quantity of meat, but it does not follow that this will improve the nutrition of the tissues. For interstitial nutrition good digestion is essential. Consequently, a meal of fish or a draught of milk, a portion of which is thoroughly and completely digested, will furnish more tissue-nutrition than a meal of beefsteak or mutton-chop no portion of which is completely digested. Further, the partially and imperfectly digested meat furnishes a large quantity of nitrogenized waste which has to be got rid of. Therefore, cruel as it may seem, mistaken, even, to the casual observer, such patients will do much better on a restricted dietary than on a liberal one. A series of most interesting and instructive cases has recently taught me the above lesson with unmistakable clearness. Some of them had previously been under men of the highest position in the profession: digitalis and iron had failed, even when accompanied by a generous dietary.

(Iron never is well assimilated when the liver is embarrassed.) But on a restricted dietary and appropriate measures they did admirably. In a number of instances there was decided enlargement of the liver; in several there was dropsy. So, keeping the lessons of physiology well in view, the dietary was made largely non-albuminous, fish and milk alone being allowed, with stewed fruit and cream- or milk-pudding. That was the first point,—viz., to reduce to a minimum the demand upon the liver. Then, to depurate the blood and relieve the liver of waste matter, a calomel- and- colocynth pill was given twice a week at bedtime; and next morning a draught of sulphate of soda with Rochelle salt in a warm infusion of gentian, containing some tincture of ginger as a carminative. This unloaded the liver and depurated the blood, with the result that the liver became markedly reduced in size. Digitalis was given also to increase the vigor of the ventricular contractions, and so to pump over more effectually the blood from the veins into the arteries. Betwixt the two the liver became not only reduced in bulk, but it recovered much of its functional power, and assimilation was more perfect. The heart recovered much of its tone, being once more fairly nourished; and, in broad terms, the cases did well and gained me no little *kudos*. In one of the cases, a very well marked one, the medical man's last report speaks of "a most marvellous recovery;" and certainly the case did admirably under this line of treatment adopted by me, first the liver being reduced in size and becoming functionally more efficient, and secondly the heart recovering its tone. Yet under digitalis and iron the case had made no progress for seven months under the charge of one of our most illustrious and able physicians. The amount of lithates, then, points to enfeeblement of the liver in its assimilative and oxidizing capacity, and their presence tells us that the dietary must be strictly regulated.

After this exposition, I venture to think, the reader will agree with me in thinking that the changes in the urine in cardiac dropsy contain a lesson of incalculable value if we will only take the trouble to learn it thoroughly. It is by this systematic survey and approach of a case remedially, both dietetically and therapeutically, that success is to be attained. Pains, infinite pains, much acquired knowledge, much individual thought and intellectual digestion of the required data, are essential to the successful treatment of such cases. But the attendant success is ample reward for all the pains taken: of that the reader may rest assured. J. MILNER FOTHERGILL.

THE death of Professor Julius Vogel, in his sixty-seventh year, is announced. He is chiefly famous for his work on the "Chemistry of the Urine."

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting held at the Hall of the College of Physicians, Philadelphia, December 8, 1880, Dr. John H. Packard, Vice-President of the Society, in the chair, Dr. William Pepper presented a communication (see page 295) on the "Treatment of Typhoid Fever," for which he received a vote of thanks from the Society.

DISCUSSION.

Dr. Bruen remarked that he would like to mention, in connection with the subject of diet, that the various preparations of the Health Food Company make delightful and highly-nourishing gruels for the convalescent: they may be combined with milk or given without, forming admirable substitutes for milk in many cases where milk alone disagrees with the patient.

Dr. J. M. Keating suggested the use of "albumen-water" when milk could not be obtained or was contra-indicated, as it often was. The whites of one or more eggs are dissolved in a pint or so of water, and then sweetened with glycerin and flavored with *orange-flower* water, or to suit the taste of the patient; this is given *ad libitum*, and given cold. He had seen this preparation retained when milk and beef-tea were not tolerated; it had saved a patient's life in a bad case of typhoid dysentery, and in a case that came under his care lately it was the only thing that was tolerated by a child of two years for almost two weeks. It is largely used in France; but no mention of it is to be found in any report of the treatment of typhoid fever in any of our journals or text-books.

Dr. George Hamilton said that he could not quite agree with the conclusions of the paper of the evening. He was obliged to differ with the lecturer in regard to his method of treatment, yet he could not claim to have been successful in ninety-eight per cent. of cases of typhoid fever.

He had never, in the first place, insisted upon such perfect quietude: where the patients had considerable strength he did not forbid them to use the commode, or hinder them from getting out of bed to empty the bladder and the bowels, and he had never seen any bad results attributable to this. As regards the diet, typhoid fever commences to weaken the patient from the very outset, and where the patient has an appetite for food he was inclined to listen to the voice of nature and give light nourishing food, and not so restricted as the lecturer had recommended. He would give pure, undiluted milk or well-spiced beef-tea under ordinary circumstances. He had noticed a great contrast between the practice of different physi-

cians in this disease as regards stimulants. He would in the latter prostrate stages of the disease use them, and incur some risk of future fondness for them, rather than deprive patients of their benefit when evidently needed.

Dr. Condie, a noted temperance man, often remarked that he could not get along without stimulants in certain cases of typhoid. He nearly always found turpentine emulsion useful in the latter period of the complaint, and, with laudanum, as an injection, in looseness of the bowels answers very well.

Much depends in typhoid fever upon the nursing and attention to the general treatment. Many cases will doubtless go through without any particular medication, but if at all protracted the patients become very weak, so that nourishment, as much as the patient can well take, with stimulants, is of great importance. The tendency always to prostration must be checked if possible.

The utmost attention should be given to hygiene, especially ventilation. All objects that annoy the patient should be removed from the room, especially when the patient is in a low, rambling condition; no disturbing visitors; the patient often hangs between life and death, and the slightest untoward incident may turn the scale against him.

In regard to slight hemorrhages from the bowels, he had seen them productive of benefit, but if profuse or repeated they are apt to carry off the patient. He mentioned a case where, after a large bloody evacuation, the patient had a second hemorrhage which was retained in the intestine, but proved fatal. He believed that no rule of treatment (except that of supporting the strength) could be laid down: each case must be studied by itself and so treated.

Dr. Henry H. Smith said that the treatment of typhoid by nitrate of silver had been highly praised by the late Dr. J. K. Mitchell when Professor at the Jefferson Medical College, many years ago. It fell out of use, probably because experience did not show it to have any special value.

The speaker dissented from the paper in several points, but objected particularly to the diet as laid down by the lecturer, as being too reducing.

Dr. O'Hara said that the three last cases of typhoid he had in children, although alarmingly ill as to high temperature and progressive exhaustion, partook of very little nourishment, or medicine either, and seemed to pursue a regular course, and within three to four weeks were in a state of convalescence. He had frequently seen temperatures of 105° which seemed to burn out the poison, along with the tissue-elements of the body, and he thought from his experience that alcoholic stimulants, as wine-whey or milk-punch, acted directly as refrigerants as well as nutrients. He thought that there was too much fear of the high temperatures, as in severe cases it was a part of nature's plan of getting rid of the disease. It is a self-limited disease, and we must aid nature by treating symptoms as complications; but he did not find, ordinarily, that the bowels were locally affected so much as Dr. Pepper had stated, or that he could find relief from treatment especially directed to the glandular structure of the bowels. It was not uncommon to have no irritation of the bowels, no looseness, but constipation from paralysis of the bowels, and laxatives were required through the course of the disease. He considered the worst type of the disease when the nervous system was overwhelmed from the start with the poisoned blood, the result of the zymosis. These cases afterwards gave us enteric symptoms, and he fancied that the diarrhœal condition, within limits, as well as the high temperature, was one of the manifestations essential to nature's plan of getting rid of the poisoned condition of the blood.

He believed that the worst cases were septic in their nature from the beginning, and not due to any local condition of the alimentary canal.

He thought that the want of assimilative power to digest milk was at fault when it disagreed, and that as much casein was there, diluted, as before. He thought wine-whey suitable at any time in a case of any severity, and he believd many cases would recover without any special treatment.

Dr. W. R. D. Blackwood said that he recalled a paper read some time ago which was based on the idea that a good many people are starved to death in typhoid fever, and advocated giving good food, beefsteaks, etc. That paper certainly was in contrast with the paper of the evening, showing that doctors disagree. During the early years of the war he had seen much typhoid, in Virginia, among the soldiers on the Chickahominy, and had fault found with him because some of his patients were limited to ten grains of quinine daily and received no stimulant; the custom among surgeons generally was to give a pint—and in many cases a quart—of whisky during the day. The mortality was large, and he attributed it to this abuse of stimulants.

He could not see how alcohol or immense doses of quinine could have an antipyretic effect; he had never been able to observe it in practice. Early in the campaign he had been instructed that typhoid was a mixed disease, but even on the Chickahominy it presented the same features as the typhoid met with everywhere else: the so-called typho-malaria was a myth. Moreover, he was satisfied that large doses of quinine do harm, and that opium, likewise, does harm through aggravation of brain-symptoms, when present, and he uses, therefore, hyoscyamus, or the bromides, in preference.

Diarrhœa is often kept up by curdled milk,—milk being a very concentrated food,—and it is often given without due regard to the patient's condition. In preference to mere dilution, which does not at all alter the proportion of casein, he would give wine-whey, using astringent wines where there was much tendency to diarrhœa. In septic cases he uses carbolic acid freely from the start, but had also obtained good results from salicylic acid.

He was satisfied that in fully eighty per cent. of the cases he had seen, the less medicine given the better for the patient. In many cases he uses literally no medicine, or simply a placebo, merely watching for symptoms or complications. For the diarrhœa he uses gallic and carbolic acids.

Sponging the entire body with lukewarm water is not only pleasant to the patient, but exceedingly efficacious in high temperature; but the cold bath and pack he was certain had done more harm than good, if cases were only honestly reported. He has little faith in quinine in this disease, and less in alcohol. Maltine, when there is not much tendency to diarrhœa, and the Health Food Company's preparations, are very useful. He recommended that less attention should be paid to the therapeutics and more to the diet.

Dr. Charles K. Mills said that of course the early recognition of typhoid fever had, or might have, an important practical bearing on its treatment. He was led to make this remark because he had recently seen cases of typhoid fever beginning with remarkable nervous phenomena. In one case the patient was a lady of middle age, who had for several weeks nursed a child sick with typhoid fever. She was suddenly taken down with what an alienist would probably have pronounced to be acute dementia. She would not speak, refused food entirely, and at times exhibited great excitement. She had some fever, with irregular temperature. At the end of a week the case settled down into one of typhoid fever, with the temperature record and other special manifestations. In a second case mental aberration and tetanoid symptoms were at first present. Four days after the appearance of these symptoms, however, a typhoid rash—the most abundant he had ever seen—appeared, and henceforth the disease took the usual course of the fever. A third patient had been treated by an irregular practitioner for cerebro-spinal meningitis, probably because of the presence of some spasm, or apparent spasm, of the muscles of the neck and back. He found the rash and other evidences of typhoid. The first two cases terminated favorably; the third died. All of these cases were treated at first with remedies not usually considered advisable in typhoid fever, such as chloral, the bromides, and local depletion.

Dr. Geo. B. H. Swayze said that for nearly twenty years he had been in the habit of using nitrate of silver in the treatment of typhoid fever whenever there was any considerable enteric irritation. He had attended the last course of lectures delivered by Prof. J. K. Mitchell at the Jefferson Medical College, and had never forgotten the emphasis with which Prof. Mitchell endeavored to impress on the minds of the class the value of nitrate of silver in many cases of typhoid fever. In cases where the intestinal irritation was severe, with marked tenderness and pain and persistent evacuations, Dr. Swayze had found no treatment so satisfactory as the use of nitrate of silver. In such cases he employed it in powder, finely rubbed with subnitrate of bismuth and opium,—from one-sixth to one-fourth of a grain of nitrate of silver to one-half or one grain of opium (according to the degree of pain), and about five grains of subnitrate of bismuth, for each dose, repeated three or four times a day, if necessary. If the patient could not take powders, he employed it in solution, in combination with deodorized tincture of opium. He does not now recollect losing more than three or four cases of typhoid fever in an experience of twenty years. He would recite the case of a lady, eighty-six years old, who had just recovered from a remarkably severe attack of typhoid fever, attended with distressing irritation of the bowels, the discharges proving unusually persistent, often numbering from nine to fifteen movements per day, and many also during the night. Astringents had no effect in relieving her until he used the nitrate of silver. Some years ago, typhoid fever entered his own family; his three sons were ill with it, two at the same time. They were ordered liberal doses of quinine at the outset, but grew steadily worse, until it became evident they had typhoid. The symptoms of the oldest boy became extremely grave. Febrifuges seemed useless, and appeared only to aggravate the diarrhœa. The epistaxis was distressing, the alvine evacuations were frequent, and often so sudden that the bedding had to be changed. For several days he lay with his knees drawn up, in consequence of intestinal soreness and tympanites. His feet became cold and purple. The physician who occasionally saw him thought he must die. In his perplexity Dr. Swayze recalled Prof. Mitchell's treatment of nitrate of silver, combined it with the bismuth and opium, and in twenty-four hours the case was better. The feet were kept warm with hot bricks, turpentine was freely applied upon the abdomen; he began to take nourishment; with the relief of the bowels the gravity of the other symptoms rapidly abated, a liberal use of whisky was allowed, and any nutritious food he could be induced to take was given. The result was that he recovered, and his father believes his life was saved through the remedial agencies of nitrate of silver, liberal stimulation, and nutritious food.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 13, 1880.

THE PRESIDENT, Dr. S. W. GROSS, in the chair.

Case of phthisis and tuberculosis—Enormous cavity—Physical signs of pneumothorax. Presented by DR. J. H. MUSSER.

W. M., æt. 25, admitted to University Hospital, September 13, 1880; native and resident of Philadelphia; ornamental japanner; spree occasionally; used considerable tobacco; had gonorrhœa; thinks his "breakdown" due to venereal excess in youth; single; a brother living; two sisters died when children; mother living; all his brothers and sisters died of consumption; history of father's family not known; always healthy; present trouble dates back fifteen months; subject always to a slight winter cough. In July, 1879, was overheated; cooled suddenly, causing a chill, followed by a pain in the head and breast, and a cough with frothy expectoration; no blood. In two weeks, on account of cough, pain in the left lung, and debility, had to quit work; soon resumed work, and in a short time lost appetite; had fever and night-sweats; cough grew worse, expectoration more purulent; became weaker and weaker; worked all winter, but in March had to give up; never went to bed until he entered hospital; all spring was very weak; throughout summer, with the cough and hectic, had diarrhœa; two or three passages a day, without pain, not fetid, sometimes dark, again green; late in summer indigestion and vomiting ensued.

When admitted, was very feeble and very much emaciated; pale, anæmic face, brown hair, blue eyes, not long lashes; pearly sclerotics and pale conjunctivæ; countenance of anguish; skin moist, fingers slightly clubbed; fever and night-sweats; appetite poor, capricious; tongue slightly coated all over, not flabby; weight and fulness after meals, flatulence, poor digestion; bowels constipated; hemorrhoids; at intervals slight abdominal pains; liver extends one inch below ribs; spleen not enlarged; very slight expansion of left lung; vocal fremitus absent anteriorly and laterally; at base slightly increased, anteriorly and posteriorly amphoric voice, at the base increased vocal resonance; on percussion, upper lobe tympanitic; lower lobe, in front, at the side, and behind, dulness; upper lobe on auscultation pure amphoric breathing; absent respiratory murmur; a few crackling râles on inspiration, heard over lower lobe; right lung at apex and base expanding very much; vocal fremitus normal at apex and lessened at base; vocal resonance the same.

Vesiculo-tympanitic percussion-note. At apex, front and back, prolonged expiration, harsh respiration, and a few mucous râles; puerile respiration over remainder of lung. Apex of heart in sixth interspace, one and one-half inches inside of nipple-line; impulse feeble; valvular element of first sound distinct; pulse rapid, feeble, compressible; urine normal.

From date of above note to October 17, strength failed more and more. The physical signs continued about the same. At times there were more râles at the right apex than at other times. The chest-pains increased, the right abdominal pains continued, the cough became more harassing, the hectic increased, the pulse was very rapid. On the 17th he complained of pain in the right side, and apparently friction râles were heard; the expectoration was streaked with blood. The morning of the 20th hemorrhage began, continuing an hour. During that time a pint and a half of bright arterial blood was raised, in mouthfuls, without effort. On auscultation, large bubbling râles were heard at the base of the lung; amphoric breathing and metallic râles over the cavity; very weak, pulse 134, hurried shallow breathing.

October 20.—Since last note, has been expectorating currant-jelly clots at intervals; cough very severe; diarrhœa; feels easier. At 11.30 A.M., after above note, suddenly, without cause, profuse discharge of blood from mouth and nose; death in about five minutes.

Post-mortem.—Examination four hours after death, by Dr. W. E. Hughes.

Skin yellowish. Epidermis scaling off in large flakes on the abdomen. Body much emaciated. No *rigor mortis*. Nostrils and mouth contained clots of blood.

On section, tissues dry and pale, very little blood exuding from the cut surface. Scarcely any fat. Muscles pale red.

Thorax.—Pericardium contained half an ounce of straw-colored fluid. Heart normal size, muscle not fatty to the naked eye. Right ventricle and auricle contained a chicken-fat clot. All the valves stood the hydrostatic test. The aortic valves were thickened slightly, as were also the mitral leaflets. In the latter were a few small calcareous deposits.

At the apex of the right lung a few pleural adhesions. Entire visceral and parietal layers of the left pleura firmly united and thickened, save in the lateral region. In this area, over the lower lobe, a sac was formed an inch deep, three inches wide, and four inches longitudinally, containing a few ounces of fluid with some lymph. The upper lobe of the right lung was partially solidified. On section, two small cavities, the largest an inch in diameter, both filled with a gray grumous fluid, occupied the centre of the solidification. The consolidated portion was of a gray color, with numerous small cheesy points in it. In the lower lobe there were numerous small masses of tubercle. Remainder of lung emphysematous. The vesicular tissue of the upper lobe of the left lung was entirely destroyed. The

walls of the cavity were formed of the thickened pleura, while across it extended thickened cords and bands containing the remains of obliterated vessels and bronchi. Numerous stumps projected from the sides of the cavity, and on its walls were studded small cheesy masses. The cavity was filled with blood and some puriform matter. The lower lobe was consolidated. Numerous cheesy masses and a few cavities were found in the gray consolidation. The bleeding-point of the hemorrhage was in one of these cavities. The edges of the lower lobe were lobulated, apparently congenital.

Abdominal cavity.—It contained a pint and a half of straw-colored fluid. Intestines presented externally, at varying intervals, dark-red blotches. Liver weighed four and a half pounds; pale and fatty, slightly cirrhotic at lower edges. Gall-bladder contained a little bile. Spleen weighed twelve ounces; was soft; dark red in color. Kidneys weighed ten ounces each. They were fatty; capsule not adherent. Stomach at largest part only one and a half inches in diameter. Rugæ very prominent. Mucous membrane very pale. A small circular ulcer with raised indurated edges in the duodenum, four inches from the pylorus. Two similar ulcers in the jejunum. All the upper Peyer's patches ulcerated, only very slightly, as if just beginning; some of the patches had two or three transverse excavations. The lower patches were elevated and rough, as if tubercle had just developed. In the cæcum numerous small ulcers similar to those in the intestine. Less numerous in the ascending and absent in the transverse colon. Mesenteric glands not enlarged.

Brain healthy. Slight increase of arachnoid fluid.

On account of the physical signs presented during life, the mode of death, and the extensive cavity found after death, the case is of interest. The physical signs of consolidation and cavity of the right lung were masked by the compensatory emphysema. The signs of the cavity of the left lung were so like those of pneumothorax that its occurrence was considered.

Death from hemorrhage is rare in phthisis. It is of interest to note that the bleeding did not take place in the large cavity, but from a vessel in one of the small cavities in the lower lobe.

Soft fibroma of uterus. Exhibited by Dr. H. F. FORMAD.

I obtained this specimen and the history of the case through the kindness of Dr. S. A. S. Jessop, of the Philadelphia Hospital, from a case in his private practice in Armstrong County, Pennsylvania.

Mrs. A. C., aged 30, has been confined nine times; only one child living; the rest were either still-born or died during delivery. Owing to a malformation of the pelvis, forceps were always used.

In the summer of 1880 she was last delivered of a still-born child. After the removal of the placenta the doctor made an examination, and discovered a tumor attached loosely to the mucous membrane of the uterus, which by gentle traction was easily removed. Hemorrhage was profuse; the contraction of the uterus did not take place for hours, and then only after administration of enormous doses of ergot.

The patient subsequently recovered and regained perfect health.

The tumor was lobulated, had a distinct capsule, and measured about six inches in its largest diameter; in some parts it was deep red in color, and was of elastic, moderately hard consistence.

Microscopic examination showed the tumor to be made up exclusively of areolar connective tissue, with large areas infiltrated with blood. Portions of the growth not infiltrated with blood showed a beautiful mesh-work formed by stellate cells, densely packed in some places, in others forming a loose mesh-work with prominent nuclei at the nodal points. Bands of fibrillar tissue were scarce, forming in places a concentric arrangement around blood-vessels. These appearances lead to the diagnosis of a *true soft fibroma.*

Hairy papilloma of conjunctiva. Presented by Dr. H. C. BOENNING.

This eye was presented to me four weeks ago by a butcher, who regarded it as a great curiosity. While purchasing cattle at the drove-yard, the attention of the gentleman referred to was called to a strange appearance of the right eye of a steer a short distance from the beeves he had selected. Upon closer examination, a hairy tumor was seen protruding through the palpebral fissure. The growth was carefully examined by the cattle-dealers and butchers present, who annually see many thousands of cattle, and all concurred that they had never seen anything of the kind before. The animal was purchased, killed, and the eye brought to me, the gentleman stating that, though the growth was touched with a skewer while the animal was still on the hoof, it did not seem to possess any sensibility, the animal remaining motionless. The hand was also waved to the right of the beast below the level of the eyes without any recognition on the part of the steer; the same motions, when brought within the limits of vision, occasioned turning of the head and an effort to evade the threatened blow. The fresh specimen presented the following appearances. Over the lower, outer portion of the cornea, extending slightly upon the sclerotic, was an ovoid, reddish growth covered with hair of the same color. The growth occupied an area of about a silver dime, was firm in feel, and creaked when cut. It extended from near the centre of the cornea to a few lines beyond the insertion of the cornea, was about seven lines in di-

ameter, and encircled by a groove of, probably, retracted tissue, this separating a rim of tissue identical with the rest of the morbid structure. A vertical section demonstrated to the naked eye its conjunctival origin. The tumor did not infringe upon the cornea or sclerotic proper. At least one hundred hairs grew from the tumor; some of them were seven lines in length, the remainder varying from three to five lines in length. Section of the fresh specimen showed a moderate amount of epithelium, the rete poorly developed and the papillæ small, though larger, I think, than shown in the sections kindly made by Dr. Longstreth this morning after about one month's maceration in alcohol. The subpapillary layers were composed of dense fibrous tissue containing numerous hair-follicles, each containing a non-medullated hair. Numerous sebaceous follicles existed, their ducts emptying both on the surface of the growth and into the follicles. No nerves were visible. This tumor was doubtless congenital. The histogenesis is interesting. The conjunctiva overlying the cornea is without papillæ; hence the impossibility of such a growth containing some of the elements of true skin developing after birth. I might mention that no attachments existed between the tumor and the eyelids.

REVIEWS AND BOOK NOTICES.

How to Use the Forceps. With an Introductory Account of the Female Pelvis and of the Mechanism of Delivery. By Henry G. Landis, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in Starling Medical College. New York, E. B. Treat, 1880. 12mo, pp. 168.

One would suppose that in such a monogram special mention would be made of those instruments meeting with most favor from the profession; but the entire subject is dismissed in a very summary manner by the author saying that he prefers the Davis forceps, and for reasons, it may be said, not very conclusive, although the value of that instrument ought not to be underrated. The claims of the Hodge and Simpson forceps, so generally used in this country and in Europe, are not even alluded to.

Of the straight forceps he says, "I say nothing, because it is nearly obsolete, and every text-book bears witness against it." There are some eminent teachers of obstetrics, here and abroad, who still carry and use it, as well as the double-curved forceps, and the author should be aware of the fact that it is very extensively used in Great Britain and Ireland, and that the text-books of that very respectable quarter of the medical world are unanimous in according to it all that its friends claim for it.

In his directions for applying the instrument he is no less dogmatic than in asserting the claims of the Davis forceps. He says that the blades should and can be applied in the bi-parietal diameter *at the superior strait*, ignoring the fact which he mentions on page 112, that Dewees, Meigs, and Hodge "admitted exceptions," and that Dr. Davis himself, whose forceps he uses, "was sometimes unable to introduce the second blade of his forceps upon the right side of the head." Dr. Meigs always preferred the same instrument, but says that in some instances the application of the second blade "is found to be difficult, dangerous, or impossible." The author says, "I utterly deny even the difficulty of application in the normal pelvis." He evidently fails to see that he is attacking an opinion now obsolete,—viz., that the forceps is to be applied with *exclusive* reference to the *sides of the pelvis;* hence, in the heat of his argument he asserts that it should and *can* be applied strictly to the sides of the head only.

The author says that "pushing, not pulling, is the first step in traction," recognizing here the principle invoked in the Tarnier forceps, which he characterizes as "an unnecessarily ingenious contrivance." He advises pressure on the blades between the lock and the extremity, so as to push the head toward the outlet, the hand making the pressure being a fulcrum and centre around which the blades revolve. The diagram on page 125, which is said to represent "the forceps applied to the head at the inlet," indicates a very unusual position,—viz., occipito-pubic.

Speaking of compression, he says "the bi-parietal diameter is capable of being diminished by their use [the forceps] from a half-inch to an inch." He does not explain how the Davis forceps, which he uses, can produce a compression of one inch. The distance between the blades of that instrument is two and seven-eighths inches, between which and three and one-half inches, the bi-parietal diameter, is a difference of only five-eighths of an inch.

The author unqualifiedly condemns all leverage or oscillatory movement, but attempts little argument, leaving almost the entire *onus probandi* with Matthews Duncan and Albert Smith. Here he does Robert Barnes the injustice of saying that he recommends leverage "without traction." His assertion on page 93, that "any use of the forceps which implies leverage upon the sides of the obstetric canal is unscientific, dangerous, and criminal," is certainly vigorous enough to express his meaning. Certain it is that very many gentlemen make leverage movements who are considered by the mass of the profession to be *scientific*, *safe*, and the very reverse of *criminal*. G. W. L.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By LOUIS A. DUHRING, M.D., Professor of Diseases of the Skin in the Hospital of the University of Pennsylvania, etc. Second Edition, Revised and Enlarged. Philadelphia, J. B. Lippincott & Co., 1881. Octavo, pp. 644.

The first edition of Professor Duhring's treatise has been out of print for nearly a year, during which time its author has been engaged actively in the preparation of the present revised and enlarged one. At the time of its first issue the work was the best, take it all in all, which had up to that time been brought out on the subject of which it treated. The minute and painstaking care with which it was elaborated, and the equal balancing of one subject with another so that each should have its due share of attention and treatment, gave it a unity of finish deserving the highest praise; and the clearness and beauty of its style, the lucid definitions, the ample yet simple details of treatment, and the pains with which all the rubbish and lumber of the older dermatology were swept aside and consigned to oblivion without the loss of any essential fact or observation, showed the hand of the master. We do not hesitate to say that the first edition of Professor Duhring's treatise was an "epoch-making" work, and that since it appeared the study of dermatology has ceased to be the bugbear which it once was, and that both the teaching and the study of this interesting and important branch of medical science have proceeded on a more satisfactory basis than could before have been thought possible.

Most writers would have rested satisfied with this, and in a second edition, coming so soon after the first, would have contented themselves with putting in a little padding here and there and writing a fresh preface. A careful examination of the work before us and a comparison with the first edition show that the course pursued by Professor Duhring has been very different from this. From the preface we learn that entirely new articles have been written on many subjects, while others of importance which were treated of in the first edition have been largely rewritten and added to in this. The fact is, however, that almost every page in the entire book has been revised, retouched, and improved, in accordance with the constantly changing and enlarging area of our knowledge of the various diseases of the skin. Extensive additions have been made, especially in the subject of treatment, and this has been brought up fully to the level of the most advanced practical stand-point of to-day. The last five years have comprised a period of great activity among the dermatologists of this country, and it may, perhaps, be asserted that, outside of the region of mere pathological and microscopical research, more has been done here than in any other country during this period. This fact finds ample acknowledgment in the pages of Professor Duhring's book, and it is a true exponent of the American dermatology of to-day. This brings us to a pleasing feature of the work, with the mention of which we must close this necessarily brief notice.

No one who has done good work in dermatology is slighted. With judicial fairness Professor Duhring sees something good in each contribution to knowledge, and does not exalt his own work or that of his friends at the expense of ignoring that of outsiders. This cordial recognition of others is everywhere observable.

In conclusion, let us say that the book is *totus, teres atque rotundus*,—complete, well rounded, thoroughly elaborated,—a work of which the profession of this city and country may be proud. V. H.

FOOD FOR THE INVALID, THE CONVALESCENT, THE DYSPEPTIC, AND THE GOUTY. By J. MILNER FOTHERGILL, M.D., and H. C. WOOD, M.D. New York, Macmillan & Co., 1881.

The conception of this little book originated with the well-known London correspondent of the *Philadelphia Medical Times*, but, as it seemed best that it should represent the resources of the American as well as of the English "sick kitchen," Dr. Wood was associated in its preparation. The somewhat lengthy introduction is a concise, very practical dissertation on diet, whose style seems to us so like that of Dr. Fothergill that we opine he wrote most of it. Moreover, we cannot find any patches: if put in at all, the sewing is very neat and the patch well matched.

The body of the book is occupied by a large number of receipts, all of which have been carefully tested, and which in their variety afford a wide range of diet. Some of them—*i.e.*, goose-pudding—are rather strong for a sick stomach less capacious and well trained when in health than is that which ministers to the two hundred and eighty pounds of its genial North-of-England endorser. These three hundred receipts afford, however, an abundance of delicate dishes, and, as Dr. Fothergill suggests, the book may be useful to the physician who marks with pencil upon its pages such food as he thinks the individual patient owning the book may with safety use.

MEDICAL AND SURGICAL ELECTRICITY. By GEORGE M. BEARD, A.M., M.D., and A. D. ROCKWELL, A.M., M.D. Third Edition, Revised by A. D. ROCKWELL, M.D. New York, William Wood & Co., 1881.

This edition preserves in all respects the peculiarities of the earlier ones. The book has been chiefly modified in those chapters treating on Diseases of Women, The Sequelæ

of Acute Diseases, Exophthalmic Goitre, and Electricity in Diagnosis.

We see no reason to modify the opinion expressed about it six years ago.

ON CERTAIN CONDITIONS OF NERVOUS DERANGEMENT, SOMNAMBULENCE, HYPNOTISM, HYSTERIA, etc. By WILLIAM A. HAMMOND, M.D. New York, G. P. Putnam's Sons.

This book is practically a second edition of Dr. Hammond's popular treatise upon hysteria, some time since out of print. It belongs to the growing class of "pot-boilers,"—*i.e.*, medical treatises written for the laity for very practical purposes. The chapter on hypnotism, we believe, is an addition.

GLEANINGS FROM EXCHANGES.

TRANSFUSION FOR PERNICIOUS ANÆMIA—TYPHOID FEVER AS A SEQUELA IN PATIENT AND DONOR.—Dr. Charles Cary (*Buffalo Med. and Surg. Jour.*, January, 1881) reports the case of a widow of 22 admitted to the hospital under his care with marked anæmia. The tissues were firm and natural, and the body well rounded. The patient complained of dizziness on standing, and of frequent and severe epistaxis. On admission the patient had a slight chilliness in the morning, with a temperature of 102° F. in the evening. There was some leucorrhœa, with pain in the left iliac fossa, but not enough uterine disease was discovered to account for the intense anæmia. The patient was placed upon a ferruginous tonic with an abundance of food, but in spite of a good appetite failed rapidly, at the end of about two weeks being nearly dead; pulse 117, hardly appreciable; temperature 101°; involuntary micturition and marked cerebral failure. The patient was utterly blanched; not even a minute vessel could be discovered in the conjunctiva. Under these circumstances transfusion was decided upon.

The operation was conducted in the following manner. The patient's left median basilic vein was exposed by dissection, and Moore's transfusion canula was inserted and allowed to remain, being held in place by rubber bands passed around the arm. The donor's left median basilic vein was then exposed and raised, a band having been placed around the arm to produce venous engorgement. Up to this point matters were conducted slowly, for there was not a drop of blood drawn, and no special pain was experienced by the patient. Everything now being in readiness, Dieulafoy's aspirator was used, being submerged in water to prevent the ingress of air, which was perhaps an unnecessary precaution. An incision was then made in the vein of the donor, and a blunt canula the full size of the vein introduced; the aspirator was thus readily filled with rich blood; its action was then reversed, but the tube from it was not connected with the canula in the recipient's arm until the blood flowed from it. Immediately upon the appearance of blood at the distal end of the tube it was connected with the canula already *in situ*, and the blood injected into the recipient's veins. The quantity thus introduced was ℥ij.

The immediate effect upon the patient of this small quantity of blood was most surprising: she felt a warm sensation, a tremor passed over her, she gave a slight convulsive movement, her face flushed perceptibly, and the operation was completed, occupying twenty seconds from the time the donor's vein was opened to the withdrawing of the bayonet trocar of Moore's canula. Two hours after the operation the patient experienced what generally follows the transfusion of blood after prolonged exsanguinity,—viz., a chill, followed by a fever which reached 103.5°.

From this time the patient's convalescence was rapid. She was troubled for a time with deep-seated and violent pain in the hepatic region, the nature of which was not determined. After the patient had been up three weeks and four days from the operation, and when she was almost ready to be discharged, she was seized with general malaise, followed by typhoid fever, running about thirty days, with a morning temperature of about 102.5° and evening temperature of 104° to (on two occasions) 105°. The anæmia did not return even during the fever. A very curious fact was that the donor was also seized with typhoid fever on the same day as the patient, the disease running about the same course.

TRANSFUSION WITH ANTISEPTIC PRECAUTIONS.—Dr. MacEwen (*London Lancet; Buffalo Med. and Surg. Jour.*, December, 1880) gives the case of a man who had lost much blood after an operation for lithotomy, and in whom transfusion was performed as follows. The patient's arm was held well up, so as to empty it of any blood which it might contain. It was also maintained considerably above the level of the patient's body, for three reasons: first, to facilitate the flow of the transfused blood into the trunk; secondly, to prevent the entrance of air into the body, as the syringe would, with the arm in this position, be necessarily held perpendicularly, with the nozzle downwards, and all contained air would remain at the top of the instrument; and thirdly, to enable any air to escape which might be in the space intervening between the opening in the vein and the occluding finger of the assistant on the proximal side. The vein was then opened. Then phlebotomy was performed on a healthy man, the blood being received into a small warm carbolized vessel, from which it was at once drawn into a warm carbolized three-ounce syringe having a narrow nozzle. When full,

it was inverted and the piston pressed, so as to expel any air, and the nozzle was then introduced into the vein. A quantity of blood was first injected into the space in the vein between the occluding finger on the proximal side and the opening in the vein itself. When this was done, the pressure on the proximal side was removed, and the contents of the syringe were slowly injected until only a couple of drachms remained. The pressure of the assistant's finger was again applied, and the syringe removed. It was then washed in 1 to 80 carbolized watery solution, recharged, and the blood introduced as before. The tin into which the blood flowed was kept free from clot, and several times a fresh cup was substituted. The arm from which the blood was drawn, and that into which it was injected, were kept constantly under the spray, and the blood itself, from the time it left the one arm until it was injected into the other, was either exposed to the carbolized spray or in contact with carbolized instruments: so that the whole transfusion was thoroughly antiseptic. With the exception of the transfusion being performed antiseptically, the other details of the operation were nearly the same as those adopted by Mr. Lister in a case in which he performed transfusion. The patient recovered completely.

MISCELLANY.

RUSKIN ON COOKERY.—Mr. Ruskin takes no mean view of the dignity of the cook's function. "What," he asks, "does 'cookery' mean? It means the knowledge of Medea, and of Circe, and of Calypso, and of Helen, and of Rebekah, and of the Queen of Sheba. It means knowledge of all herbs, and fruits, and balms, and spices, and of all that is healing and sweet in fields and groves, and savory in meal; it means carefulness, and inventiveness, and watchfulness, and willingness, and readiness of appliances; it means the economy of your great-grandmothers, and the science of modern chemists; it means much testing and no wasting; it means English thoroughness, and French art, and Arabian hospitality; and it means, in fine, that you are to be perfectly and always 'ladies,' 'loaf-givers;' and as you are to see, imperatively, that everybody has something pretty to put on, so you are to see, yet more imperatively, that everybody has something nice to eat."

ON THE DIGESTIVE POWER OF FIGS.—In the *Comptes-Rendus*, xci., Professor Bouchut speaks of some experiments he has made going to show that the milky juice of the fig-tree possesses a fermentative power of a digestive character. Having mixed some of it with a preparation from animal tissue, he found the latter well preserved at the end of a month. This fact, when brought into connection with Professor Billroth's case of cancer of the breast, which was so excessively foul-smelling that all his deodorizers failed, but in which, on applying a poultice made of dried figs cooked in milk, the previously unbearable odor was entirely done away with, gives an importance to this homely remedy not to be denied.—*Medical Press and Circular.*

TREATMENT OF PAINFUL CALLUS.—Professor Gosselin, of Paris, observes that when the pains which have their seat in the callus of a fracture are of a neuralgic origin we should treat them by blisters or cutaneous revulsives, and especially by the tincture of iodine. Hot or cold douches, or sulphurous douches, or frictions with a chloroform liniment may also be had recourse to. Finally, a roll-bandage with wadding is of undoubted utility, diminishing the pain sensibly by saving the limb from the little shocks which keep up the painful condition.—*Medical Press and Circular.*

CURE OF EPISTAXIS OCCURRING IN CIRRHOSIS OF THE LIVER.—Dr. Verneuil reports a case in which epistaxis occurring in cirrhosis of the liver, and which ergot and digitalis failed to arrest, was stopped by a fly-blister over the hepatic region.

DR. JOHN CURWIN, late Physician in Charge of the State Lunatic Asylum at Harrisburg, has established himself in the latter city as a specialist in mental disorders and diseases of the nervous system.

DR. WILLIAM LAUDER LINDSAY, author of "Mind in the Lower Animals in Health and Disease," died in Edinburgh recently, aged 50 years.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 23 TO FEBRUARY 5, 1881.

VOLLUM, E. P., MAJOR AND SURGEON.—Granted leave of absence for six months on Surgeon's certificate of disability, with permission to go beyond sea. S. O. 24, A. G. O., January 31, 1881.

GREENLEAF, C. R., MAJOR AND SURGEON.—His leave of absence, granted him in S. O. 158, series 1880, from A. G. O., extended to May 1, 1881. S. O. 20, A. G. O., January 26, 1881.

WILLIAMS, J. W., MAJOR AND SURGEON.—Par. 9, S. O. 2, c. s., A. G. O., relating to him, is revoked. S. O. 20, c. s., A. G. O.

BENTLEY, E., MAJOR AND SURGEON.—Announced as Acting Medical Director of the Department until the arrival of a medical officer his senior. G. O. 2, Department of Arkansas, January 17, 1881.

TAYLOR, B. D., CAPTAIN AND ASSISTANT-SURGEON.—The operation of par. 4, S. O. 14, c. s., A. G. O., as far as it relates to him, suspended until March 1, 1881. S. O. 20, c. s., A. G. O.

GARDINER, J. De B. W., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Camp Huachuca, and assigned to duty at Fort Mojave, A. T. S. O. 7, Department of Arizona, January 15, 1881.

BURTON, H. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty at Fort Niagara, N.Y. S. O. 18, Department of the East, February 1, 1881.